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Ability grouping : practices and perceptions of elementary school teachers.

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ABILITY GROUPING: PRACTICES AND PERCEPTIONS OF ELEMENTARY SCHOOL TEACHERS

A Dissertation Presented

by

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ABSTRACT

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OF ELEMENTARY SCHOOL TEACHERS

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One fundamental purpose of American education is to provide an equal and quality education for all children. Unfortunately, evidence that schools are failing to meet this important challenge is abundant. One barrier to equal educational opportunity is the practice of ability grouping, which is widespread despite research showing that it does not consistently benefit any group of students and may be detrimental to students in lower-ability groups. Teachers favor ability grouping, but little is known about why.

Two major research questions guide the present study:

1. How do Coalition elementary schools group students for instruction?
2. What do Coalition elementary school teachers perceive are the effects of existing grouping practices on student learning?

The study employs qualitative research methods to describe the practices and perceptions of a particular group of principals and teachers in relation to school and classroom grouping. Data are drawn from 47 interviews with principals and teachers representing Grades K-6 in 12 elementary schools associated with the Coalition for School Improvement.

Data show that principals in all 12 schools attempt to create heterogeneous classes. However, teachers create groups within classes to reduce the heterogeneity of student abilities in some subjects. Usually, reading is taught in ongoing, similar-ability groups. Most other lessons are introduced to entire classes and are followed by ad hoc similar-ability groups for a specific skill lesson or mixed-ability groups for peer tutoring or cooperative learning.

Teachers defend similar-ability groups on instructional grounds, usually to maintain appropriate content and pace in reading and math. They defend mixed-ability groups because of social benefits to children, usually in science and social studies. Teachers' perceptions of groupings' effects on students' personal development are mixed.

The study concludes that within-class ability groups operate with different learning conditions for different groups. Teachers hold unexamined assumptions and are remote from research linking grouping and student learning. Grouping decisions also are influenced by forces outside of teachers' control, including mandates, norms, and requirements.

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NATURE OF THE STUDY

Statement of the Problem

One fundamental purpose of American public education is to provide equal and quality educational opportunities for all children. This priority for schools has emerged over time and is firmly grounded in democratic principles. In the early years of our country, schools served to sort out the small number of young people who would go on to higher education (Tyler, 1976). Since 1900, however, the number of high school graduates has grown from about 6% to about 75%. The diversity of student populations also has increased. Spurred by Brown vs. Board of Education (1954), Sputnik (1957), and the Conant Report (1959), modern American schools increasingly are challenged to provide quality educational opportunity for all students, regardless of race, income, or prior achievement. Priorities for schools have become "quality and equality." Unfortunately, there is mounting evidence that schools are failing to meet this important challenge (Boyer, 1983; Goodlad, 1984; National Commission on Excellence in Education, 1983; Sizer, 1985). Furthermore, there is growing awareness that school environments are both the cause of and the solution to the problem of students becoming disconnected from conditions designed for learning (Sinclair and Ghory, 1987).

One barrier to equal access to knowledge is the practice of grouping students into classes according to judgments about their general ability (Goodlad, 1984; Oakes, 1985; Slavin, 1986). While proponents of ability-grouped classes argue that it is a means to tailor curriculum and instruction to student needs (Nevi, 1987), critics maintain that it often leads to detrimental labeling of

students as "bright," "average," "slow," and so on (Berliner, 1985). Extensive research indicates that ability-grouped classes benefit few students and may harm many of the students assigned to low-ability classes (Boyer, 1983; Esposito, 1973; Froman, 1981; Goodlad, 1984; Miller and Otto, 1930; Oakes, 1985; Slavin, 1986).

Yet, grouping students by ability has dominated classroom and school organization since the early 1900's, with more than 75% of American schools using ability grouping by the 1970s (Froman, 1981). The widespread existence of ability-grouped classes conflicts with research evidence that such classes do not consistently benefit any group of students. Furthermore, research on within-class ability grouping suggests that learning conditions are better for students in higher-ability groups (Good & Marshall, 1984). Even when classes reflect a broad range of abilities, sorting into instructional groups may help some and hinder others.

Faced with an apparent gap between pervasive educational practices of sorting on the one hand and democratic, egalitarian ideals on the other, educators must find ways to help all students succeed in school. However, striving for more equity in schools surely involves more than changing organization. Educators also must attend to improving curriculum and instruction to meet the needs of individual learners.

> This theme has eluded educators for many years, and ignorance of it may explain our continued hope that ability grouping would provide improved instruction. Ability grouping is an organizational method, most frequently decided upon at an administrative level. Teaching techniques and use of classroom materials are instructional methods, decided upon at the classroom level by teachers. The two are not synonymous and should not be treated as such. (Froman, 1981, p. 20)

The distinction between structure (ability grouping) and practices within structure (curriculum and instruction) may be an important one in unraveling the problem of inequity in our schools. In defending ability grouping, several authors have blamed misuses of curriculum and instruction within traditional tracks (Down, 1985; Gwiazda, 1985; Nevi, 1987). The nagging concern, however, is that the process of ability grouping may provide an organizational structure in which the odds for equity are decreased. Under the guise of addressing individual differences among students, the structure may allow inappropriately-differentiated curriculum and instruction to become an accepted norm. In addition, the structure may serve to resegregate students of different races despite legislative and judicial mandates to integrate them in desegregated schools (Epstein, 1985). Further, ability grouping practices may ignore the fact that learning environments are affected by forces other than the teacher/student relationship, most notably the influence of students on each other (Johnson, 1981). Separating students by ability leads to feelings of superiority among some (Esposito, 1973) and a dearth of positive role models among others (Slavin, 1986).

It is important for educators to examine existing practices in light of ideals of "quality and equality." We must examine how attitudes and practices associated with grouping promote and/or hinder efforts to achieve educational goals. The key to such an examination, though, may well lie with those for whom organization, curriculum, and instruction are daily tools - the teachers.

Too often, teachers are overlooked in the reform process (House, 1974; Sarason, 1982). Consequently, changes initiated by academic

experts, administrators, or legislators may fail to affect classroom practices in compelling ways. For example, curriculum projects in the wake of Sputnik produced science materials developed by scholars who were remote from life in schools. A team of researchers at the University of California at Los Angeles (UCLA) observed a sample of early childhood classrooms that professed to be implementing the science materials (Goodlad et al., 1970). They discovered that the materials were not being used to promote scientific inquiry as the designers intended. Rather, teachers were continuing to use the new materials just as they had used the old - for students to memorize content. One finding of this research is that innovations conceived, planned, and developed without genuine teacher involvement are less likely to be implemented effectively when teachers lack understanding of the change or are not committed to making it succeed.

Goodlad's findings are corroborated by Gross et al. (1971) in Implementing Organizational Innovations in which analysis of school case study data led to the identification of five barriers to implementation of an innovation: 1) lack of clarity; 2) lack of skills; 3) unavailability of materials; 4) incompatibility with organization; and 5) lack of motivation.

The importance of teachers' understanding of educational innovations is emphasized by Bruce Joyce et al. (1983) in The Structure of School Improvement. Joyce et al. maintain that without understanding, there likely will be confusion, frustration, and little implementation. For example, programmed instruction received wide acclaim in the '50s as a promising means to individualize instruction, ensure mastery of content, and increase class size without jeopardizing

student learning (Tyler, 1976). When implemented in varied schools, however, it was ineffectual in achieving the improvements its developers envisioned. Programmed instruction was an imposed answer to problems that teachers had not yet identified, and it was an innovation that teachers did not fully understand or endorse.

The importance of teachers is further evidenced in research on effective schools, which tend to be characterized by clear goals, equitable rules, high expectations, teacher efficacy, pervasive caring, public rewards and incentives, administrative leadership, and community support. Several of these characteristics parallel crucial innovation variables described by Ernest House in The Politics of Educational Innovation, particularly the need for incentives and support. According to House, teachers must perceive that investing time and effort to change existing practices will lead to desirable rewards.

In considering research evidence that ability grouping should be replaced by other, more equitable grouping methods, educators must be careful not to repeat mistakes of the past by overlooking the importance of teachers' understanding of the problem, desire for change, confidence that changes are possible, and their perception of resulting rewards. A meaningful and lasting shift away from labeling students depends heavily on support from teachers.

Purpose of the Study

This descriptive study details the practices and perceptions of a particular group of elementary school principals and teachers in relation to grouping students for instruction. The study emerges from the school-based reform efforts of the Coalition for School Improvement, a school-university partnership linking the University of

Massachusetts with public schools in western Massachusetts. Issues of providing equal access to learning receive continuous consideration in the work of the Coalition through seminars, study teams, and school-based inquiry; and, specific findings from this study will inform further action to increase learning for all students. Work in the Coalition, then, becomes both the "source" and the "final test of value" for the research, a distinction advocated more than fifty years ago by John Dewey (1929) in The Sources of a Science of Education.

The main purposes of this study are: 1) to determine how elementary schools in the Coalition for School Improvement group students for instruction; and, 2) to determine teachers' perceptions of how existing grouping practices affect student learning. Even though the study paints ability grouping in problematic terms, it is not the intention of this researcher to form judgments about how teachers group students. Rather, the study sets out to understand teachers' perceptions about grouping practices in the context of complex forces that have shaped those perceptions.

The study answers the following research questions:

1. How do Coalition elementary schools group students for instruction?
2. What do Coalition elementary school teachers perceive are the effects of exisiting grouping practices on student learning?

Meaning of Terms

Sometimes terminology has multiple meanings, depending on viewpoints and experiences of individual readers. In this study, some key terms warrant clarification about intended meaning.

Ability grouping. Ability grouping is the process of sorting students into classes or instructional groups according to judgments about their ability. The term "ability grouping" appears in a variety of ways throughout the literature. It describes the process of sorting students for instruction within classes (Berliner, 1985; Good and Marshall, 1974); the process of sorting students into different classes (Heathers, 1969); and, the process of sorting students for specific skill lessons (Piñero, 1985). For the purpose of this study, ability grouping has a broad meaning - whenever students are sorted for instruction according to judgments about their presumed ability. The kind of grouping advocated by Piñero (1985), in which students are grouped as needed to learn a particular skill, does not fall within this definition of ability grouping. Groups formed for specific lessons tend to be temporary, defined by specific need for common learning rather than assumed similar abilities.

Four types of ability grouping commonly found in elementary schools, and identified by Robert Slavin (1986) through analysis of research, have specific meaning in this study. *Ability-grouped class assignment* means the process of sorting students into classes according to judgments about their general intellectual and/or academic ability. *Regrouping within grades by subject* refers to assigning students to classes for specific subjects according to judgments about ability or achievement. Students may start the day in a heterogeneous homeroom and then change classes within their grade for specific subjects such as reading and math. *Across-grade or nongraded ability grouping* means placing students in instruction groups according to achievement, regardless of age or grade designations. *Within-class ability grouping*

refers to sorting students into ongoing instruction groups within self-contained classrooms. Traditional reading groups are examples of this type of ability grouping.

Homogeneous Groups. Groups of students can be formed according to a variety of criteria, and students may be similar on some criteria and not on others. Even groups in which students' abilities are thought to be similar can vary greatly from group to group, school to school, and community to community. For example, a homogeneous ability group in a diverse urban community might closely resemble a heterogeneous ability group in an affluent suburban community. Homogeneous groups, then, take their meaning not only from sorting criteria, but also from the population in which they occur. In the context of school organization, groups often are called homogeneous when attempts are made to limit the range of student ability within the group. A number of criteria are set, and students are clustered together according to how closely they match the criteria. Sorting students into groups according to judgments about their general ability does not ensure that groups will be homogeneous, however. For the purpose of this study, homogeneous groups mean those groups where students are thought to have similar abilities.

Heterogeneous Groups. The prefix "hetero-" means "different," and the prefix "homo-" means "same." "Heterogeneous," then, is the opposite of "homogeneous." However, heterogeneous groups are not always the opposite of homogeneous groups for many of the reasons described above. When applied to students, the term must be considered in relation to the larger population from which groups are formed. In practice, heterogeneous groups are formed by assigning students

randomly or by stratifying groups according to such characteristics as race, ability, interest, age, and gender to ensure diversity. In this study, meaning comes from purpose; heterogeneous groups are those formed to diversify rather than limit the range of student ability.

Organization of classes. Three forms of classroom organization are relevant in this study. First, *self-contained classes* refer to groups of about 20-30 students who remain under the guidance of one head teacher for most, if not all, of a school day. Head teachers in self-contained classes may be assisted by aides, interns, or subject specialists, but head teachers assume primary responsibility for the school-based education of students in self-contained classes. In contrast, *team-taught classes* refer to groups of students organized so that two or more teachers share responsibility for school-based education. In the present study, team-taught classes usually involve more than 30 students, regrouped for instruction in a variety of ways. Exceptions to this are the bilingual classes in one urban school where two teachers share responsibility for approximately 20 students in each class. One teacher instructs students in Spanish and the other concentrates on helping students develop English proficiency. Other examples of team teaching in Coalition schools include two-teacher teams working with about 50 students, often as one large group; three-teacher teams working with about 60-65 students from two grades; four-teacher teams working with about 80 students divided into heterogeneous homerooms and regrouped for reading, language arts, and math. *Departments* occur when teachers are responsible for specific subjects. Usually, departmental grouping involves about four teachers: one teaching English, one science, one social studies, and one mathematics.

In the present study, students remain in heterogeneous homeroom groups for instruction in reading, art, music, and physical education. Of two schools with departmental organization, one has students move from classroom to classroom for specific subjects, and the other has students remain in homerooms while teachers move from group to group.

Tracking. Tracking, or *streaming*, occurs when students are sorted into classes according to judgments about their general ability. There is seldom movement between tracks (Oakes, 1985), and students often leave school in the same track they entered as young children. Tracking is effectively ability grouping with permanence, a process by which decisions about general ability define a student's school day, year, and often career.

Significance of the Study

Data about the neutral to negative effects of ability grouping are abundant. Yet little is known about why the practice persists. Research on the process of change in schools does indicate, however, that teacher involvement is an important variable in achieving objectives for change (Goodlad et al., 1970; Gross et al., 1971; House, 1974; Joyce et al., 1983; Sarason, 1982). It is reasonable to assume, then, that by examining teachers' perceptions about grouping, this study sheds some light on why the practice persists despite research evidence that contradicts its value.

This study is significant for several reasons. First, by providing information about a persistent practice that may lead to unequal educational opportunity in our schools, this study contributes data for a better understanding of the problem and for constructive action to build conditions for equal access to learning. Through

careful analysis of data and through further research, promising solutions may be identified that are significant for increasing student learning, particularly for children in lower-ability groups. Second, by focusing attention on the importance of teacher involvement in the change process, the study recognizes teachers' key roles in conceiving and implementing educational innovations. Third, the study is significant because it begins to unravel the complex forces that contribute to the perpetuation of ability grouping, including the logic by which teachers group students. Data from the study help formulate suggestions for further research and frame guidelines for involving teachers in increasing equity in schools.

Furthermore, data on teachers' perceptions about grouping will assist ongoing efforts to increase student learning at the local school level and throughout the Coalition. As the Coalition continues collaborative inquiry into ways to increase learning for all children, an important first step is recognizing existing practices. Specifically, understanding existing practices puts educators in a better position to interpret and assess the practical value of experimental research designed to measure effects of different grouping practices on student achievement and affective development. Knowledge of existing practices also helps educators identify patterns and commonalities that may have remained unexamined for some time and may warrant further scrutiny to ensure that all students' needs are met.

Knowledge about teachers' perceptions adds detail and emotion to a portrait of elementary school grouping emerging in this study. Teachers' thoughts and feelings are important variables in whether or not they are motivated to change existing practices. Data on teachers'

perceptions of grouping provide a rough ordering of where the Coalition's elementary teachers stand on the pervasive and controversial practice of sorting students by ability. This rough ordering, together with data about existing practices, provides the Coalition with valuable insights into the climate for change.

Delimitations of the Study

This study is based on some assumptions about school reform and ability grouping. First, it is assumed that the traditional practice of sorting students into classes according to judgments about their general ability hinders equal access to a quality education (Persell, 1977; Slavin, 1986). Second, the structure of ability-grouped classes provides a framework in which differentiated curriculum and instruction contribute to unequal student access to learning. The curriculum and instruction for the "top class" often is more exciting and rich than the curriculum and instruction for the "bottom class" (Goodlad, 1984; Oakes, 1985). Third, achieving lasting educational change requires commitment, confidence, incentives, and involvement of teachers in planning, implementing, and evaluating innovations (Gross et al., 1971; House, 1974; Joyce et al., 1983; Sarason, 1982). Finally, the study assumes that teachers' perceptions are important variables in examining and understanding classroom and school practices (Bussis et al., 1976; Combs, 1962; Patton, 1980). Additional support for this assumption comes from Vincent Rogers (1984):

> Any social entity or institution is enormously complex and subtle. It is difficult to understand what is happening in a first grade reading group or a middle school classroom. The experiences and attitudes of teachers and children both in and out of the school setting all have a bearing on what occurs within the classroom or school. Qualitative researchers accept these complexities, believing that only through their unraveling will anything resembling accurate description result. (p. 86)

This study emerges from the work of the Coalition for School Improvement and is limited to 12 demographically-varied elementary schools participating in this collaborative project. Participation in the study was sought from all principals and a purposive sample of classroom teachers in grades K-6 in the 12 schools. There is no intent to generalize conclusions beyond the Coalition, although individual readers may consider findings in light of other school settings.

This study seeks to understand existing elementary school grouping practices and the perceptions that may have shaped those practices. Because teachers are important in achieving educational goals and establishing classroom practices, the study is limited to teachers' views. Administrators', parents', and students' views, also important in schooling, are not considered at this time, but are topics for future research. Interviews with principals focus on how classes are formed and do not extent to principals' views about instructional grouping within classrooms.

The study does not assume that grouping practices necessarily live up to teachers' perceptions of their value in promoting student learning. Nor does it assume that teachers' perceptions about grouping match the practices they employ. Rather, it is possible that teachers may have similar perceptions about grouping but act on those perceptions in very different ways. It also is possible for teachers to justify existing grouping practices with reasons that "sound good."

The researcher recognizes that data in the present study reflect principals' and teachers' perceptions of what is real and not necessarily reality itself. The purpose of the present study, however, is to assess elementary teachers' understandings of classroom grouping. Determining a relationship between what teachers' perceive and what can be observed objectively remains a question for further research.

This study focuses on teachers of grades K-6 in order to understand conditions children encounter in initial school experiences. The importance of the elementary years in shaping a child's school future is accentuated by research. For example, Eder (1981) reports that first grade reading groups may be formed solely on the recommendations of kindergarten teachers, based on perceptions of maturity and academic ability. As young children progress through elementary school in ability groups, the gap in achievement between groups may actually widen (Heathers, 1969; Weinstein, 1976). There is further evidence that children seldom move from one group to another (Daniels, 1961; Hallinan & Sorensen, 1983), perhaps because the widening gap makes acceleration impossible. In this way, tracking may have its roots in elementary grades when students are sorted into instructional groups by ability. The practice extends through the secondary years with more formal labels such as college, general, and basic tracks (Epstein, 1985). The present study concentrates only on elementary teachers' practices and perceptions.

CHAPTER 2
REVIEW OF RELATED RESEARCH

This chapter consists of two sections. First, studies of the effects of ability grouping on elementary students are reviewed to establish a conceptual context for the present study. This part of the review documents relationships between grouping practices and conditions in learning environments that promote or hinder student learning. The second section focuses on the role of the teacher in promoting equal access to learning. Research linking teachers' expectations for students to different teacher behaviors is summarized. Also, the second section of the review identifies and discusses prior research assessing teachers' attitudes about ability grouping.

Studies of Elementary Ability Grouping

In the course of a school day, week, or year, classroom teachers make a myriad of decisions about providing for the education of children. The creation of small groups for instruction and learning is one decision teachers make frequently, although such groupings take various forms (McPartland et al., 1987).

Teachers make many other decisions as well, including decisions about content, activity, pace, task assignment, and evaluation. Because teacher decision making is complex, and because the relationship between grouping and learning is mediated by what happens within the groups, we cannot assume a direct link between grouping practices and student learning (Barr & Dreeben, 1983; Hiebert, 1987). However, a review of research connecting grouping practices, classroom conditions, and cognitive and affective outcomes furthers understanding of the effects of grouping on students.

Research on ability grouping is particularly relevant because student ability is a common basis for instructional grouping in schools and classrooms (McPartland et al., 1987). Studies of ability grouping in elementary schools and classrooms shed light on how ability grouping may promote or hinder student learning.

In synthesizing research on ability grouping in elementary schools, Robert Slavin (1986) identifies four dominant forms: ability-grouped class assignment; regrouping within grades by subject; across-grade or nongraded ability grouping; and, within-class ability grouping for specific subjects. For each form, Slavin examines and synthesizes experimental studies to determine how practices affect student achievement. Slavin concludes that different forms of ability grouping have different effects on student achievement.

Slavin presents research that consistently refutes the value of ability-grouped class assignment for all students, but particularly for students assigned to lower-ability classes. He suggests that studies are less conclusive about within-class grouping and regrouping within grades for specific subjects. In contrast, according to Slavin's synthesis, across-grade ability groups demonstrate positive effects on student achievement.

Slavin's "best evidence" synthesis of research on elementary ability grouping provides a useful guide to research over several decades, with a heavy concentration of studies conducted in the 1960s. In organizing original research according to forms of ability grouping, Slavin makes an important contribution by suggesting that ability grouping in elementary schools is complex, not simply a matter of existent or nonexistent, good or bad.

However, studies reviewed by Slavin fail to investigate or report how effects are mediated by what is actually taking place in the experimental and control classrooms. Slavin recognizes this important limitation and in a subsequent publication calls for further research to document instructional practices characteristic of each form of ability grouping (Slavin, 1987a).

The present review of related research seeks to describe what is actually taking place in classrooms because variation in instruction may exert more influence than the grouping practices themselves. For example, studies of special programs for gifted students may show benefits for participants that are due more to accelerated content than to separation from less-able classmates. This concern is raised repeatedly by reviewers of the literature on ability grouping, including Esposito (1973), Hiebert (1987), the National Education Association (1968), and Slavin (1986).

This review of related research does not assume a direct link between grouping and student learning. Rather, studies are analyzed to increase understanding of forces that mediate between formation of groups and students' learning. It is assumed that different forms of grouping influence conditions which in turn influence learning.

Educational researchers have studied ability grouping throughout this century, producing a vast body of relevant literature. In the present review, special consideration is given to studies conducted after 1970. Earlier research is cited as it supports or counters current findings.

Table 1 presents an organizational framework for the review of related research; it organizes studies that link ability grouping first

with specific conditions and ultimately with student learning in the cognitive and affective domains. The studies listed in Table 1 report on conditions that mediate between grouping practices and student learning. Research to understand instructional conditions tends to focus on teachers' actions in establishing and promoting a climate for teaching and learning. Research to understand social conditions tends to focus on how students interact and view themselves and each other. Table 1 lists studies in two distinct categories for the clarity of the review. In practice, the interrelations between the categories are many and complex.

Table 1
Selective studies of elementary ability grouping, 1970-present

Instructional Conditions	Social Conditions
Allington, 1980	Abadzi, 1984, 1985
Alpert, 1974, 1975	Barker Lunn, 1970
Barr, 1974, 1975	Rosenholtz & Rosenholtz, 1981
Barr & Dreeben, 1983	Rowan & Miracle, 1983
Beckerman & Good, 1981	Simpson, 1981
Brophy & Good, 1970	Weinstein & Middlestadt, 1979
Dreeben & Barr, 1988	Zeichner, 1978
Eder, 1981, 1982	
Felmlee & Eder, 1983	
Gambrell et al., 1981	
Good & Beckerman, 1978	
Hallinan & Sorensen, 1983	
Rowan & Miracle, 1983	
Sorensen & Hallinan, 1986	
Weinstein, 1976	

Studies of instructional conditions

Many educational researchers have examined different forms of ability grouping in relation to instructional conditions affecting students. Some studies focus on how teachers' decisions vary with different ability groups, including decisions about pace (Barr, 1974,

1975; Barr & Dreeben, 1983; Rowan & Miracle, 1983), time (Sorensen & Hallinan, 1986), and mobility (Barr & Dreeben, 1983; Hallinan & Sorensen, 1983; Rowan & Miracle, 1983; Weinstein, 1976). Other researchers have attended to variation in teachers' behavior toward different groups of students, including different feedback (Allington, 1980; Alpert, 1974, 1975; Brophy & Good, 1970; Eder, 1981, 1982) and different techniques to maintain student engagement in learning tasks (Gambrell et al., 1981; Good & Beckerman, 1978). A growing body of research examines how the social characteristics of groups affect instructional conditions (Beckerman & Good, 1981; Dreeben & Barr, 1988; Felmlee & Eder, 1983). A common thread in the research is a desire to understand what happens within different ability groups in relation to variation in student learning.

In How Schools Work, Rebecca Barr and Robert Dreeben (1983) make important distinctions among different levels of school organization (school, class, group, and individual). Their primary interest, however, is in the workings of the classroom, particularly as teachers arrange classes into groups for reading instruction. Barr and Dreeben conclude that "teachers create groups in response to how abilities or other characteristics are distributed in classrooms" (p. 102). They report that children move among reading groups according to their performance, with no evidence of the self-fulfilling prophecies for lower-achieving children reported by others (such as Rist, 1970, 1973).

Barr and Dreeben's research builds upon earlier works by Barr (1974, 1975) that established instructional pace as an important variable in word learning and determined that the readiness of group members only partially determines pace.

Interest in classrooms led Barr and Dreeben to examine variation among different instructional groups established by teachers. Using content coverage (pace) as a measure of group productivity, they examined to what extent the relationship between instructional pace and student learning is influenced by individual characteristics and instructional conditions. They report that students in higher-ability groups read more stories and encountered more words than students in lower-ability groups, as evidenced by a statistically-significant correlation between group mean aptitude and amount of content covered. However, not all of the variance in pace is accounted for by group mean aptitude. Instructional conditions such as time allocated for instruction, content difficulty, supervision, teacher effectiveness, and group size may influence pace as well. Large differences in pace among groups of similar aptitude, especially among "high" groups, lead Barr and Dreeben to conclude:

> Vast inequalities in educational experience - at least in first grade reading - exist inside schools and, to a lesser but by no means trivial degree, inside classrooms. They are associated with grouping, but more importantly with the differences in instruction applied to groups, even to groups that resemble each other in composition. (p. 166)

Instructional pace, according to Barr and Dreeben, is determined at the group level of school organization. Learning, however, must be understood at the level of the individual. While Barr and Dreeben find a strong correlation between mean group aptitude and basal coverage, there is virtually no relationship between individual student aptitude and basal coverage. This means that pace is determined by group assignment and not by individual "brightness." Furthermore, Barr and

Dreeben report that first grade achievement is influenced more by basal and phonics learning than by individual student aptitude.

> In other words, what the children have learned directly out of their basal reading materials has a greater impact on their general reading achievement than their aptitude, a finding that shows the predominance of instructional events and their immediate outcomes over aptitude on learning. (p. 143)

For low-aptitude children, group placement is an important vehicle for achievement in reading. Although low-aptitude children tend to cluster in low groups, Barr and Dreeben also have found them assigned to middle and high reading groups. Group placement for low-aptitude children, then, is somewhat independent of individual aptitude.

According to Barr and Dreeben, the characteristics of the class as a whole influence instructional group formation. Variation in mean group aptitude, along with instructional conditions, influence content coverage in basal and phonics instruction, which in turn influences first grade achievement in reading. Barr and Dreeben maintain that instructional conditions applied to different groups, as evidenced by content coverage, lead to inequalities in educational experience.

Rowan and Miracle (1983) also have examined pace in relation to ability-grouped class assignment and within-class ability grouping in reading. They report a positive correlation ($p<.05$) between class assignment and pace, suggesting that students in higher-ability classes progress through reading materials at a faster pace. Conversely, they report a negative correlation ($p<.10$) between within-class reading group assignment and pace, suggesting that students in lower-ability reading groups are paced quicker for compensatory reasons.

There are several potential problems in concluding that the negative correlation reported by Rowan and Miracle reflects

compensatory action. First, the correlation (-.20) is weak and warrants further investigation. Second, a strong correlation (.93) between initial and final reading group assignment suggests that placement is highly stable throughout the year, raising questions about the effects of compensatory action. Finally, Rowan and Miracle's sample of within-class reading groups are from ability-grouped classes. In other words, the classes are first characterized as high-ability or low-ability, and further groupings for reading occur within this high-ability or low-ability context. The initial sorting into high- and low-ability classes may influence the pacing of subsequent within-class groups. For example, it is plausible that the lower-ability reading group in the high-ability class may be paced quickly because of teacher expectations for the class rather than the group.

The relationship between ability grouping and learning also is influenced by how much time students spend engaged in learning activities within different groups. In grouping students by ability for instruction, teachers end up dividing instructional time into as many parts as there are groups.

Assuming a relationship between teacher-led lessons and student learning, Sorensen and Hallinan (1986) examined ability grouping in relation to opportunities for learning provided by teachers in group instruction. Although their model depends heavily on what Freire (1970) calls a "banking" concept of education, in which teachers provide and students receive, their conclusion that grouping appears to <u>reduce,</u> rather than increase, learning opportunities offers an interesting caution for time-allocation decisions.

Sorensen and Hallinan (1986) also examined differential effects by level of ability group, concluding that more opportunities for learning exist in high-ability groups than in low-ability groups. However, they also conclude that students learn more of what is taught in small and homogeneous groups. These conclusions suggest that, for gains in student learning to be realized, teachers must sufficiently limit group size and heterogeneity to compensate for the fewer learning opportunities associated with grouping.

Allocation of time constrains the number and size of ability groups. As a result, group formation tends to be uniform and stable. Using longitudinal data from 48 elementary classes, Hallinan & Sorensen (1983) report that classes typically are divided into three reading groups of near-equal size, unrelated to the size or the ability distribution of each class. In other words, a class of 30 students may have three groups of ten, and a class of 15 may have three groups of five. Further, uniform grouping contributes to a great deal of variance among groups at the same level in different classes. The mean achievement score of a high group in one class may vary greatly from a high group in another class.

Hallinan & Sorensen (1983) advance the theory that reading groups resemble closed systems, in which students must compete with classmates for advantageous placements. In this view, group placement has less to do with a student's specific skills than how those skills compare with skills of other students.

Further analysis of data leads Hallinan & Sorensen (1983) to conclude that groups membership is stable. "Rather than responding to students' differential learning rates and reassigning students to more

appropriate groups, teachers treat group assignments as fairly permanent structures and provide little opportunity for student mobility" (p. 850). Lack of mobility over the school year also is reported by Weinstein (1976) in a study of first grade reading groups and by Rowan & Miracle's (1983) study of fourth grade reading groups.

Barr & Dreeben (1983) advance a conflicting picture by maintaining that even though the number of groups remains somewhat stable, the relative size of groups and membership within groups changes frequently. They observe that as students change groups, the size inequity of groups changes correspondingly. This observation challenges Hallinan & Sorensen's vacancy competition theory by suggesting that students who are moved to another group are assimilated, even if groups of unequal size result.

Researchers of elementary ability grouping also have examined variation in teacher-student communication, specifically how feedback and engagement techniques differ among groups. In an observational study of teacher-student interactions, Brophy and Good (1970) conclude that teachers are more likely to demand quality performance from students for whom they have high expectations. Study data show statistically-significant differences in teacher feedback to students, with "highs" receiving more teacher praise following correct answers and less criticism following wrong answers. Furthermore, data indicate that teachers offer "highs" more opportunities for "second tries" following incorrect responses, as evidenced by paraphrasing of questions and giving of clues.

Support for Brophy and Good's conclusion that "highs" enjoy preferencial treatment from teachers in instructional situations is

found in Allington's (1980) study of primary-grade oral reading in ability groups. Allington reports that teachers are more likely to interrupt poor readers on oral-reading errors, regardless of semantic appropriateness.

Allington's research can be interpreted in two ways, however. It may be used to suggest that lower-ability students are disadvantaged because interruptions interfere with preservation of meaning from printed text. Conversely, higher incidence of interruption may suggest that teachers are working closely with students to develop accurate decoding skills.

Data from studies by Alpert (1974, 1975) and Weinstein (1976) also document teacher feedback in different ability groups. After observing teacher behavior with ability groups, Alpert reports no significant difference in "good" verbal behaviors afforded each group. In Weinstein's study, students in lower-ability reading groups are observed to receive more opportunities to respond, more praise, and less criticism than their classmates in high-ability groups.

Such conflicting evidence points to important considerations in understanding ability grouping research. First, evidence of specific teacher feedback in different ability groups cannot be separated from the total educational programs of children. To be effective, teachers must become adept at tailoring specific feedback to specfic needs. For example, praise for marginal performance may leave children with the notion that expectations are minimal. Whereas, criticism balanced by encouragement and support to try again may help students improve performance without detriment to confidence or self-image. A second consideration is that different behaviors with high- and low-ability

students may be warranted; treating all students the same is not necessarily preferable. A third consideration centers on the context of instructional groups, specifically how social characteristics of groups may influence teacher-student interaction. Research on how social context affects group learning indicates that student inattention in low-ability reading groups requires that teachers respond with management activities that can be quite disruptive (Eder, 1981, 1982; Felmlee & Eder, 1983).

In an intensive study of learning contexts in a first grade classroom, Eder (1981) found that less-mature students were assigned to a low-ability reading group when they entered first grade. The group was inattentive, and the teacher sought to regain attention by asking questions of inattentive students, by pointing to books, and by accepting "call-outs" and interruptions from previously inattentive students. Data led Eder to conclude that the social context of ability grouping requires that teachers simultaneously engage in managerial and instructional acts. Eder expressed concern that while management techniques may increase student attention to instructional tasks, corresponding violations of reading turns may contribute to lower levels of reading achievement in low-ability groups.

In a subsequent study, Eder (1982) investigated differences in communication styles across ability groups. She observed teachers' responses to students in different groups, concluding that responses socialize students to varying communication norms. While all students were encouraged to make only relevant remarks, the timing of relevant remarks varied according to group assignment. Interruptions, if relevant, were allowed more often in low-ability groups than in high-

ability groups. Eder concluded that while allowing students to interrupt with relevant remarks may reinforce staying "on-topic," it also creates a different set of rules in reading group lessons that students may apply inappropriately in other settings.

Differences in students' attention-to-task interests other educational researchers as well. Good and Beckerman (1978) and Gambrell, Wilson, and Gantt (1981) have documented that high achievers spend more time on task than low achievers. To understand why task-attending behaviors differ among good and poor readers, Gambrell et al. (1981) examined the nature of reading tasks and the difficulty of reading materials. With observational data from 70 fourth-graders characterized by teacher reports and achievement tests as good or poor readers, they conclude that high achievers spend more time engaged in contextual reading and less time engaged in nonreading activities. Data further indicate that poor readers who read with 95% or better word accuracy engage in contextual reading almost twice as much as poor readers with less than 95% accuracy. This finding points to the importance of appropriate reading materials in understanding students' task-attending behaviors. Simply put, students are more likely to stay focused on books they can read successfully.

There is growing evidence that the context of the classroom learning environment is a powerful influence on differences in student behavior and achievement (Sinclair and Ghory, 1987). Felmlee and Eder (1983), for example, report highly significant effects of ability group assignment on student attentiveness, even as individual characteristics fail to show significant effects. Moreover, group effects develop over time, moving from no significant effect in the fall to a highly-

significant effect in the spring. "This indicates that the longer the students are exposed to a group environment, the stronger its effects become" (Felmlee & Eder, 1983, p. 85). The existence of different learning environments for high- and low-achieving students within classroom settings is emerging as a plausible explanation for the widening gap in student achievement reported by Weinstein (1976).

To examine the effects of class composition on individual student achievement, Beckerman & Good (1981) distinguished between two types of classrooms. They hypothesized that classrooms containing more than a third high-aptitude students and less than a third low-aptitude students were more favorable than classrooms with the opposite proportions of students. Results indicated that "both high- and low-aptitude students in 'favorable' classrooms had higher [math] achievement scores than comparable students in 'unfavorable' classrooms" (Beckerman & Good, 1981, p. 320). Beckerman & Good's data do not explain <u>why</u> class composition influences achievement, but the authors maintain that achievement gains are likely the result of interaction of aptitude ratio and instructional variables.

A recent study by Dreeben and Barr (1988) attempts to explain the instructional processes that mediate between composition and learning. Although limited data mark their research as "exploratory," Dreeben and Barr report some interesting patterns that warrant further examination. Cognizant of three levels of school organization (grade, class, and instructional group), Dreeben and Barr hypothesize that distribution of aptitudes in classes constrains both the arrangement of classes into groups and the subsequent instruction each group receives. They define "difficult" classes as ones with a large proportion of low-aptitude

students. "Easy" classes, on the other hand, have a large proportion of high-aptitude students. "Average" classes fall in the middle.

With data from a sample of 13 classes (6 easy, 4 average, 3 difficult), Dreeben and Barr contend that group size is linked to the aptitude distribution of the class. They suggest that classes skewed toward high-aptitude have fewer and smaller groups of low-aptitude students. In contrast, classes skewed toward low-aptitude have larger groups of low-aptitude students. Furthermore, Barr and Dreeben suggest that similar groups in differently composed classes progress at different rates in reading. In other words, Dreeben and Barr maintain that groups of students with low reading aptitudes in average classes learn more than comparable students in difficult classes. Similarly, groups of students with high-average aptitudes in easy classes achieve more than comparable students in average classes.

To understand if differences are attributable to instructional differences, Dreeben and Barr analyze data on several variables: reading time, content coverage, and words learned. Although they report some evidence to support their contention that group composition constrains instruction and then learning, it is with this final analysis that their study is weakest (Hallinan, 1988). Small numbers and conflicting results keep the hypothesis that instruction mediates between composition and learning open to question and further tests.

In summary, research linking ability grouping with instructional conditions suggests that class composition, school norms, and teacher decision making and behavior may affect within-class groups in complex ways. Furthermore, faulty assumptions and unexamined norms may influence teachers' decisions about grouping. Instead of providing

challenge and remediation, variation in instructional pace and content may contribute to widening gaps in student achievement. Instead of building self-esteem, different teacher expectations for student performance may lead to variation in student confidence and motivation.

The fact that many students assigned to lower-ability groups come from racial minority or economically-poor families further conflicts with democratic ideals (Abadzi, 1984; Epstein, 1985). Placement in a lower-ability group may relegate students to fewer learning opportunities than are available to their classmates (Sorensen & Hallinan, 1986). This is particularly problematic if students have little opportunity to move to higher groups, as suggested by Hallinan & Sorensen (1983), Rowan & Miracle (1983), and Weinstein (1976).

Studies of social conditions

Research studies to understand social conditions associated with ability grouping have focused on friendship patterns (Barker Lunn, 1970; Rowan & Miracle, 1983), peer acceptance (Barker Lunn, 1970; Zeichner, 1978), and how students view themselves in relation to others (Abadzi, 1984, 1985; Rosenholtz & Rosenholtz, 1981; Simpson, 1981; Weinstein & Middlestadt, 1979).

To investigate the effects of class-assigned ability grouping (streaming) on friendship, Barker Lunn (1970) identified pairs of mutual friends and categorized the difference in ability between each child in the friendship pair. Data show that it is not unusual for students in non-streamed classes to be mutual friends with students of quite different ability. Barker Lunn concludes that students tend to choose friends of similar ability, although this tendency is much stronger ($p<.001$) in streamed than in non-streamed schools.

Barker Lunn's conclusions are supported by Rowan and Miracle's (1983) determination that ability-grouped class assignment stratifies friendships. However, Rowan & Miracle also conclude that within-class ability grouping does not result in similar stratification. Their conclusions are based on a statistically-significant correlation between class assignment and the average reading achievement of friends. For within-class ability grouping, the average reading achievement of friends shows no correlation with reading group assignment or with individual reading achievement.

Research investigating students' sociometric status assumes strong relationships among peer acceptance, self concept, and achievement (Alhbrand & Doyle, 1976). Defining sociometric status as "a person's degree of popularity within a certain group" (p. 156), Barker Lunn (1970) set out to determine if less-skilled students are less popular socially and academically in non-streamed classes than students with comparable skills in lower streams, where all students are of similar ability. Barker Lunn's data indicate that students in non-streamed classes are more likely to select more-able students to "work with" than are students in streamed classes, indicating that academic popularity of more-able students may be more evident in non-streamed classes. Comparisons between ability groups on "play with" criteria in both streamed and non-streamed schools fails to reach statistical significance.

Zeichner (1978) also investigated sociometric distribution of friendships with data from over 600 fifth and sixth graders. Zeichner distinguished between centralized social structure, in which students prefer a small number of classmates, and diffuse social structure,

characterized by a wider distribution of choices. He compared classrooms with different social structures, concluding that "students in diffuse classrooms achieved higher in reading than students in centralized classrooms" (p. 559).

A link between classroom social structure and ability grouping can be approached by further analysis of Barker Lunn's (1970) data on sociometric status in relation to the "work with" criterion. If a relationship exists between centrality of social structure and ability grouping, fewer students would be chosen to "work with" in centralized classes, and these classes would be identifiable as streamed or non-streamed. When comparing the proportion of students receiving the most choices to "work with," however, Barker Lunn found no difference between streamed and non-streamed classes. In both types of classes, almost identical numbers of students were designated as "stars, medium status, or neglectees." Similar conclusions about ability grouping and social structure were reached by Borg (1965).

Understanding how students view themselves in relation to others also is important in establishing links between ability grouping and learning. An early study by Mann (1960) presents compelling evidence that students assigned to lower-ability classes describe themselves entirely in negative terms. Recent studies by Abadzi (1984, 1985) support Mann's findings and indicate that students most likely to be affected by ability-grouped class assignment are students near the cut-off between high-ability and regular-ability classes.

In 1984, Abadzi found that the gap in achievement test scores of students who cluster around the cut-off for advanced placement widened significantly during the year of ability-grouped class assignment.

Furthermore, differences between the self-esteem scores of students assigned to high-ability classes and students assigned to regular-ability classes were not significant at the beginning of the year but reached significance at the end. In a follow-up study, Abadzi (1985) demonstrated that gains in achievement in high-ability classes were short-lived. After the first year, Iowa Test of Basic Skills (ITBS) scores in high-ability classes dropped significantly, although the gap in achievement between the two kinds of classes never fully closed. Self-esteem scores, on the other hand, continued to rise for students in high-ability classes and fall for students in regular ability classes, significantly increasing the gap that Abadzi recorded at the end of the first year of grouping.

Understanding how students perceive their environments, and how they view themselves in relation to their environments, may shed light on the link between classroom conditions and students' self-esteem. To bring research closer to students, Weinstein and Middlestadt (1979) investigated the real meaning to children of the differences in teacher behavior cited in research based on classroom observations. They examined whether students in grades 1-6 perceive differential treatment by teachers of high- and low-achieving male students. They also collected information about sex and academic self-concept of perceivers. Weinstein and Middlestadt found that students of both sexes and of both high and low academic self concepts share the perception that teachers go out of their way to help low-achieving students, ask others to help low-achieving students, and are more concerned that low-achieving students learn than enjoy themselves. Conversely, students perceive that high-achieving students are granted

special privileges, are allowed to make up their own projects, are asked to suggest or direct activities, and are allowed to do as they like as long as they complete assignments. According to Weinstein and Middlestadt (1979), students' perceptions of differential treatment of high- and low-achieving students make such treatment a "public event in classroom life. Thus, the expectations of classroom peers for a student's performance can be as critical to the student's own developing self-expectations as those of the teacher" (p. 430).

Working from a theoretical model that links classroom organization first with perceptions of teachers and students and then with individual self-evaluation, Rosenholtz & Rosenholtz (1981) and Simpson (1981) sought to unravel how classroom grouping leads to differences in student self-esteem. They hypothesize that the organization of classroom instruction influences teacher and student perceptions of ability through opportunities to construct performance interpretations. They believe that a large distribution of opportunities enables individuals to "select among a variety of performance options as the bases of social comparison and self-evaluation" (Rosenholtz & Rosenholtz, 1981, p. 133).

To test their hypothesis, Rosenholtz and Rosenholtz categorized 15 classrooms as either unidimensional or multidimensional according to teacher reports of task differentiation, grouping practices, student autonomy, and frequency of comparative evaluation of students' work. They predicted that in multidimensional classes, characterized by more task differentiation and student autonomy and less grouping and comparative assessments, individual students' self-evaluation of

ability would be less dispersed and would be less affected by the perceptions of teachers and peers.

Rosenholtz and Rosenholtz conclude that in unidimensional classes, teachers and students perceive greater ability stratification among students. While most individual ability ratings in unidimensional classes tend to be equally dispersed among below-average, average, and above-average categories, ratings in multidimensional classes tend to fall in the average to above-average categories. This finding, consistent with Simpson's (1981), implies that "classrooms with a narrow opportunity structure more prominantly stratify children when compared to classrooms which offer more alternatives in the organization of instruction. Where achievement is narrowly defined and performance comparisons are emphasized, classroom actors more readily perceive and accept inequalities among individuals" (Rosenholtz & Rosenholtz, 1981, p. 140).

An interesting finding by Barker Lunn (1970) supports the theory tested by Rosenholtz and Rosenholtz (1981) and Simpson (1981). Barker Lunn's data on sociometric status indicate variation between streamed and non-streamed classes in the characteristics of students named as "neglectees." In non-streamed classes taught by teachers who prefer streaming, proportionally more of the "neglectees" were among the lower-achieving students in the class, as determined by academic rank. This finding hints at the importance of teacher influence on students' perceptions of classmates.

Research connecting ability grouping with social conditions in classrooms parallels common sense: children exposed to a variety of people and a variety of learning opportunities develop a broader range

of friendships and a broader context for self evaluation. Evidence that ability grouping is associated with limited friendships (Barker Lunn, 1970; Rowan & Miracle, 1983) and reduced self-esteem for lower-ability students (Abadzi, 1984, 1985; Mann, 1960) sends a strong message that alternative grouping practices should be explored. Student motivation, challenge, and confidence are key ingredients in successful learning (Tyler, 1985), and school and classroom conditions that promote these key ingredients for all students must be found and maintained.

Studies of Teacher Expectations and Attitudes

This part of the literature review focuses on research of teachers' expectations in relation to different groups of students. Research on teachers' attitudes and opinions about ability grouping also is discussed.

Studies of teacher expectations

Thomas L. Good, of the University of Missouri, has conducted extensive research to observe how teachers interact with students they view as high or low achievers. In an article summarizing a decade of research, Good (1981) presents hypotheses guiding his research. In summary, Good maintains that teachers' different expectations for different students are communicated to students through teacher behavior, affecting student self-concept and motivation. Good maintains that over time different expectations and resulting behavior shapes student achievement and behavior, so that students eventually conform to the behavior expected of them. Most of Good's research focuses on how teacher behavior differs with high- and low-achieving students.

Good reports that teachers call on low-achieving students less often, wait less time for their response, and move on at the first sign of failure. Good also reports that teachers seat low-achieving students farther from the teacher, give them less attention, and demand less work and effort from them. Furthermore, low-achieving students receive more criticism for incorrect responses, less praise for correct responses, and the feedback they receive is less accurate and less detailed. Good maintains that as low-achieving students move from class to class, they are more likely to encounter both intolerant teachers who offer criticism and overly-sympathetic teachers who offer unearned praise. Good suggests that over time, such varied treatment may affect student motivation and contribute to passive learning.

To explore student motivation in relation to teacher expectations, Cooper & Good (1983) examined the degree to which different students perceive that trying hard will produce positive academic outcomes. They hypothesized a positive relationship between teacher expectations and students' beliefs about self-efficacy. Although the direction of mean scores on a self-efficacy scale supported the hypothesis that high-expectancy students would demonstrate more positive beliefs about self-efficacy, the variance was not statistically significant. Cooper and Good explain weak results in terms of theoretical and methodological problems and call for further research to test the predicted relationship.

Motivation to "try hard" assumes that students have confidence that persistence will lead to success. Butkowsky and Willows (1980) investigated differences in expectancies, persistence, and attributions of failure among good, average, and poor readers. They conclude that

poor readers' lack of confidence and inability to cope with failure lead to low self-concept of ability. This, in turn, leads to lower persistence in the face of difficulty. Poor readers not only attribute failure to lack of ability, they also then lower their expectations for success. While Butkowsky and Willows' study does not link student motivation with ability grouping, the data reaffirm the importance of providing lower-ability students with supportive learning environments.

Interestingly, teachers who support ability grouping believe that lower-ability students are less discouraged in homogeneous groups (Wilson & Schmits, 1978). This view is supported somewhat by a 1966 study by Goldberg, Passow, and Justman, but only for lower-ability students. In the Goldberg et al. study, students in all ability ranges but the lowest registered more positive attitudes when in classes with a broader mix of student abilities.

Barker Lunn (1970) provides evidence refuting the value of class-assigned ability grouping. Using a scale to assess students' motivation to do well, Barker Lunn compared attitudes of high- and low-ability children in streamed and non-streamed schools over a two-year period. She was particularly interested in any changes in motivation. In general, students taught in non-streamed classes by teachers who supported non-streaming showed statistically-significant increases in motivation to do well. When Barker Lunn compared streams, children in top streams increased their motivation to do well while children in lower streams tended to decrease in motivation.

While we cannot assume that grouping patterns <u>cause</u> differences in motivation, correlations between group placement and motivation suggest that the attitudinal needs of students in lower-ability streams may not

be met by separation from more-able peers. Furthermore, Barker Lunn's distinction in non-streamed schools between teachers who support non-streaming and teachers who prefer streaming lends support to the importance of teacher attitudes in promoting positive learning environments. According to Barker Lunn, non-streamed students of average and below-average ability who were taught by teachers who favored streaming consistently registered lower scores on academic self-image and motivation to do well than did the students of teachers who favored non-streaming. This, in combination with data on sociometric status reported earlier, suggests that teachers' attitudes about school and classroom organization are important factors in the kind of learning environment they establish and promote.

Studies of teacher attitudes about grouping

That teachers prefer homogeneous grouping over heterogeneous grouping has been documented since ability grouping gained prominance in the early 1900s (National Education Association, 1968; Sauvain, 1934; Wilson & Schmits, 1978). The consistent message is that teachers believe ability grouping is instructionally effective in meeting students' educational needs.

Over 50 years ago, a survey of principals and teachers in elementary schools in 16 cities revealed strong preferences for ability grouping (Sauvin, 1935). In participating cities, 80% of principals and 89% of teachers conveyed the belief that students are happier under ability grouping than if there are no groupings based on "IQ, brightness, or slowness" (p. 139). Further, 82% of principals and 92% of teachers felt that students do better work under plans of ability grouping.

To initiate the study, Sauvin sent inquiries to 57 cities that according to a 1926 government bulletin used ability grouping in all of their elementary schools. Of the 45 schools that resporded to Sauvin's inquiry, almost 25% reported abandoning ability grouping since the 1926 publication, suggesting an emerging shift away from the practice. However, the shift away from ability-grouping envisioned by Sauvin in 1935 never materialized. Although ability grouping lost some favor in the 1930s and 1940s, by the 1970s it was firmly entrenched in 77% of American schools (Findlay & Bryan, 1970; Froman, 1981). Support for ability grouping among teachers also remained high.

In 1968, the National Education Association (NEA) Research Division asked a national sample of elementary school teachers about their views on ability-grouped classes. The majority (57%) favored class assignment by ability, and teachers who had taught both with and without ability grouping favored ability grouping nearly two to one. The survey did not attempt to link teachers' views about ability grouping with specific practices other than ability-grouped class formation, however.

Wilson and Schmits (1978) also assessed elementary teachers' views toward homogeneous ability grouping. Ninety-two percent of questionnaire repondents reported feeling that ability grouping is instructionally effective. Furthermore, even teachers who were aware of research discrediting ability grouping continued to favor the practice. However, the questions Wilson and Schmits asked did not distinguish among different forms of ability grouping.

Barker Lunn (1970) included a detailed assessment of teachers' attitudes, including attitudes about ability grouping (streaming)

itself. Her study drew conclusions about teachers' attitudes in relation to specific instructional and grouping practices in both streamed and non-streamed schools. Barker Lunn compared characteristics of teachers in streamed and non-streamed schools and reported statistically-significant differences between the two groups. In summary, teachers in streamed schools had more teaching experience, used more traditional lessons, displayed less-permissive attitudes to student behavior, had a lower tolerance of noise, were more likely to favor physical punishment, and conveyed more favorable attitudes regarding students in advanced-placement classes (A-streams).

Barker Lunn interprets differences between teachers in streamed and non-streamed schools as indicative of different philosophies of education. She observes that teachers in streamed schools emphasize acquisition of basic skills in contrast to an emphasis on self-expression, discovery learning, and practical experience in non-streamed schools. This interpretation suggests that learning effects associated with grouping may also be due to teachers' assumptions and beliefs underlying organizational structures.

Yet disparity persists between research evidence decrying ability grouping and pervasive beliefs and practices. One reason for disparity is supplied in Wilson and Schmits' report that 66% of the elementary teachers responding to their questionnaire stated that they were not familiar with research on ability grouping. Another reason, however, may lie with the questions researchers ask of teachers. For example, one limitation in the NEA and Wilson and Schmits' studies may have been a failure to define ability grouping adequately in the context of elementary school classrooms. No longer just a label for sorting

students into classes, "ability grouping" is used to describe within- and between-class groups as well. In short, ability grouping appears in different forms, affecting students in different ways (Slavin, 1986). Therefore, it is likely that teachers may have different attitudes and opinions about different forms of ability grouping. It is difficult to determine from data reported by the NEA and Wilson and Schmits exactly what grouping practices teachers employ and specifically which practices they prefer.

The existence of varied forms of elementary ability grouping is documented in both experimental and descriptive research. Using data from the 1986 Pennsylvania Educational Quality Assessment (EQA), McPartland, Coldiron, and Braddock (1987) describe various grouping practices at both the school and classroom levels. They report that as students progress through the elementary grades, they are less likely to stay with the same class all day. While 80% of first graders stay with the same class all day, only 40% of sixth graders do so. Of the elementary students who stay with the same class all day, roughly 65% are in homogeneous-ability classes.

Other forms of ability grouping, including within-class instruction groups and between-class regrouping for specific subjects, gain prominance in the Pennsylvania data as student progress through the elementary grades. Within-class ability groups dominate early-elementary reading instruction as reported in about 90% of questionnaire responses. As students get older, within-class groups are replaced by between-class ability groups, mostly in English and mathematics. While 75% of respondents report between-class ability groups in Grade 6, only 45% do so for Grade 1.

Teachers' views about the various forms of elementary ability grouping currently in use remain unknown. Although evidence to date suggests that teachers favor homogeneous grouping, it may be that their opinions are qualified by specific circumstances in their schools or classrooms.

Chapter Summary

The studies cited in this review of related research present strong evidence that ability grouping, both class-assigned and within-class, promotes instructional and social conditions that are disadvantageous to some students. There is a clear message that students in higher-ability classes and groups experience a more positive context for learning as a result of favorable teacher expectations (Brophy & Good, 1970), teacher behaviors (Allington, 1980; Eder, 1982), peer influences (Beckerman & Good, 1978), and group norms (Felmlee & Eder, 1983). Additionally, students placed in higher-ability classes demonstrate enhanced self-esteem, even as students of comparable ability in lower-achievement classes show steady declines in self-esteem (Abadzi, 1984, 1985).

In light of evidence that argues against both within-class and class-assigned ability grouping, it is imperative to examine current grouping practices and the underlying beliefs and assumptions which guide those practices.

CHAPTER 3
DESIGN OF THE STUDY

This study describes the practices and perceptions of a particular group of principals and teachers in relation to school and classroom grouping. Research methods are qualitative, producing descriptive data based on principals' and teachers' reports of how and why they group students for instruction. Taylor and Bogdan (1984) provide guidance for the qualitative design.

> By observing people in their everyday lives, listening to them talk about what is on their minds, and looking at the documents they produce, the qualitative researcher obtains first-hand knowledge of social life unfiltered through concepts, operational definitions, and rating scales. (p. 7)

In this present study, qualitative methodology helps ensure that teachers' perceptions are not forced into a particular framework. The research is inductive, with insights and understandings drawn from patterns in data rather than from tests of a preconceived hypothesis (Patton, 1980; Rogers, 1984; Taylor & Bogdan, 1984; Wiersma, 1986).

Several key qualitative design elements characterize this study. First, research questions serve as flexible guides rather than strict prescriptions. Second, data come from open-ended interviews. Third, the qualitative design involves systematic data analysis in an ongoing process of identifying emerging patterns. Data collection and analysis proceed together (Goetz & LeCompte, 1984; Taylor & Bogdan, 1984; Wiersma, 1986). Each interview helps focus the next, until a full range of practices are documented. Interview transcripts are systematically coded to refine interpretations that develop as the study progresses. A final analysis of coded data leads to conclusions and suggestions for further research.

The following subheadings organize the qualitative design for answering the two major research questions of the study: Subquestions, Data Collection, Data Sources, and Data Analysis.

Subquestions

Answers to seven subquestions contribute to the study by providing data on specific variables. Five subquestions guide data collection and analysis to answer the first major research question: How do Coalition elementary schools group students for instruction?

- How are schools organized into classes? *(class formation)*
- What criteria are used to place students in classes? *(placement criteria)*
- How are classrooms organized? *(class organization)*
- How are students grouped for instruction within classes? *(classroom grouping)*
- How do teachers group students for different subjects? *(subject area)*

Two additional subquestions guide data collection and analysis to answer the second major research question: What do Coalition elementary teachers perceive are the effects of existing grouping practices on student learning?

- What do teachers perceive are the ways grouping practices promote student learning? *(learning conditions)*
- What factors influence teachers' classroom grouping decisions? *(influences)*

Taken together, answers to these seven subquestions contribute to understanding how and why principals and teachers in Coalition elementary schools group students for instruction.

Data Collection: Interviews

"The purpose of open-ended interviewing is *not* to put things in someone's mind (for example the interviewer's preconceived categories for organizing the world) but rather to access the perspective of the person being interviewed" (Patton, 1980, p. 196). General guides focus interviews to ensure that sufficient information is recorded, but the interviewer remains free to word questions, probe responses, and ask for elaborations in a spontaneous, conversational manner. The interview guides delimit the topics being discussed without constraining the range of ideas and viewpoints, making data collection from different people more efficient, comprehensive, and systematic. (See Appendix A for interview guides.)

Patterned after conversation rather than a question and answer exchange, open-ended interviews produce data on what teachers feel are important issues associated with classroom grouping. The difference between teachers' words and deeds is a recognized hazard in choosing interviews for data collection, and reliance on second-hand accounts of grouping practices is one limitation of the design. However, to obtain representative data from Coalition teachers, interviews are a logical methodological choice as the scope of the study does not allow for extensive observations in the 12 elementary schools associated with the Coalition. Support for this decision comes from Patton (1980):

> The issue is not whether observational data is more desirable, valid, or meaningful than self-report data. The fact of the matter is that we cannot observe everything. We cannot observe feelings, thoughts, and intentions. We cannot observe behaviors that took place at some previous point in time. We cannot observe behaviors that preclude the presence of an observer. We cannot observe how people have organized the world - we have to ask people questions about those things. (p. 196)

"Asking people questions," then, was the primary data collection tool of this study, consistent with the purpose of understanding teachers' perceptions about the value of existing grouping practices in promoting student learning. Interviews with principals provided information about school characteristics, class formation, placement criteria, and class organization. Interviews with teachers led to information about classroom grouping practices and information about why specific grouping methods are used.

In open-ended interviews, teachers described grouping practices and reasons for grouping practices. Whenever possible, interviews were conducted in the school or classroom setting and were tape recorded. School-level data were extracted from tape recordings of principal interviews and transfered to notes. However, tape-recorded teacher interviews were transcribed verbatim, allowing for a thorough analysis of teachers' perceptions about grouping as reflected in their own words. Verbal permission to tape record and transcribe was obtained from each interviewee prior to the interview.

In the qualitative design of this study, data collection and selection of data sources were linked inextricably and must be described in terms of what actually occured. In all, 47 interviews were conducted: 39 in schools, four by telephone, and four at the university. All 12 interviews with principals were tape recorded. Rather than transcribe the tapes, the researcher used recordings of principal interviews to check accuracy and depth of field notes. Data from 35 teacher interviews came from transcripts of 28 tape-recorded interviews and from notes that carefully documented key points and quotations in seven additional interviews, four face-to-face and three

telephone. Of the 35 teacher interviews, 34 were with classroom teachers and one was with a reading resource teacher.

Data Sources: Selection of Participants

Selection of schools was predetermined by the study's commitment to providing useful information to the Coalition for School Improvement. At the time of the study, 12 elementary schools were associated with the Coalition. This study of elementary grouping in the Coalition, therefore, is bounded by those 12 schools. The schools reflect diversity in student populations as well as in community demographics and school organization. Collectively, the schools cover a broad geographic area, with all five counties in western Massachusetts represented.

Although conclusions from the study are not generalized to all elementary schools, readers may recognize patterns consistent with other settings. Similarities and differences among Coalition schools may inform readers and spark ideas for research in other schools, regions, or communities. Table 2 shows school demographic information.

Table 2
Elementary schools in the Coalition for School Improvement

School	Grades	Neighborhood	School District	Town/City Population
A	K-6	Rural	Regional	< 5,000
B	K-8	Suburban	Town	11,389
C	K-4	Suburban	Urban	152,319
D	K-6	Suburban	Urban	161,799
E	K-6	Rural	Regional	< 5,000
F	K-4	Rural	Regional	< 5,000
G	Pre-5	Suburban	Town	7,019
H	Pre-3	Urban	Urban	44,678
I	K-5	Urban	Urban	51,974
J	Pre-6	Rural	Regional	< 5,000
K	Pre-4	Rural	Regional	< 5,000
L	Pre-6	Rural	Regional	< 5,000
Note: Population figures are from the 1980 U.S. Census				

As shown in Table 2, elementary schools in the Coalition for School Improvement represent rural, suburban, and urban neighborhoods and communities. Two schools (C and D) are in suburban neighborhoods of major western Massachusetts cities. In School C, inner-city children are bussed to school to ensure racial diversity of the student population. School D serves only its immediate neighborhood.

Table 3 shows how students in each school are divided into single or combined grades so that school-level grouping can be viewed in the context of the graded organization of each school.

Table 3
Number of classrooms in Coalition elementary schools, arranged by school and grade (n=181)

		Number of classrooms in Grade:										
School	Students	K	K-1	1	1-2	2	3	3-4	4	5	5-6	6
A	207	2		2		2	1		2	1		1
B	279	4		1		1	1		1	1		1
C	480	4		4	1	3	4		4			
D	475	3		3		3	3		3	2		3
E	155	2		1		1	1		1	1		1
F	176	2		1		2	2		2			
G	760	8	1	5		4	5		5	5		
H	281	2		5		5	2					
I	615	5		5		5	4		4	4		
J	250	2		1	2			3			3	
K	190	2		2		2	2		2			
L	140	2		1		1		2		1		1
Totals	4008	38	1	31	3	29	25	5	24	15	3	7

As shown in Table 3, there are more classrooms in the primary grades than in the intermediate or upper-elementary grades. This reflects population changes as well as district-wide school organization. In some districts, students leave elementary school after Grades 4 or 5 to attend a middle school. For example, all 12 schools have kindergarten classes, but only half have sixth grades.

The 12 schools are organized into 181 classes taught by 169 teachers. The difference between the number of classrooms and the number of teachers is because 12 kindergarten teachers have both a morning class and an afternoon class.

Selection of principals to interview was predetermined by selection of schools. Twelve schools logically led to 12 interviews with principals. Obtaining data about classroom grouping practices and teachers' perceptions about those practices, however, required sampling from the 169 teachers in the 12 schools.

Interviews were conducted sequencially with volunteer teachers from each of the 12 elementary schools. Consistent with a view of selection as dynamic and phasic rather than static (Geotz & LeCompte, 1984), this present study secured data from a sufficient number of teachers to draw conclusions about classroom grouping in Coalition elementary schools. Sample size, other than the inclusion of 12 schools, was not predetermined. The sequence of interviews was determined at the convenience of principals and teachers. No effort was made to conduct interviews in a particular order, and interviews often depended on finding a day when several teachers would be available at different times. To determine sample size and ensure that data reflected a full range of grouping practices in the 12 schools, interview transcripts were examined periodically for emerging patterns.

One emerging pattern suggested the importance of the length and purpose of instructional groups. Consistently, teachers conveyed a clear distinction between temporary and ongoing groups of students. Temporary, ad hoc groups are formed for brief time periods for specific purposes, such as focused work on a particular skill. On-going groups

form for more general purposes, such as differentiating curricular content and instructional pace. Four general categories for type and length of instructional groups emerged after the first 14 interviews in six schools. Table 4 shows the sequence in which teachers mentioned using ad hoc and on-going groups, both similar- and mixed-ability.

Table 4
Sequence of interviews establishing grouping categories (n=35)

	Ad Hoc Groups	On-going Groups
Similar Ability	5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 24, 25, 28, 29, 30, 31, 32, 33, 34	1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 13, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 35
Mixed Ability	1, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35	14, 22

These four general categories break down further into specific grouping practices in reading and math. Again, the first 14 interviews set a tentative framework for organizing grouping practices. Table 5 shows the organizational framework for grouping practices established in the first 14 interviews and supported through continued sampling of teachers.

The framework displayed in Table 5 is generally consistent with the four categories of elementary ability grouping identified in Robert Slavin's (1986) synthesis of research: 1) ability-grouped class assignment; 2) regrouping within grades; 3) regrouping across 2 or more grades; and, 4) within-class ability grouping. However, Slavin's categories for elementary ability grouping refer only to similar-ability groups, and this framework is based on reports of both similar-

ability and mixed-ability grouping. The categories differ from Slavin's in two additional ways. First, none of the principals or teachers in the 12 schools report the use of similar-ability class assignment. Second, "ad hoc" categories are added to show that teachers bring together students in temporary groups for specific purposes. Thus, the framework is broader than ability grouping, encompassing ad hoc groups and mixed-ability groups as well.

Table 5
Teachers reporting specific within-class grouping practices
(n=34)

		Ad Hoc Groups		On-going Groups	
		Reading	Math	Reading	Math
Similar Ability	Within-class	9, 11, 16, 17, 18, 20, 23, 29, 34	1, 5, 6, 10, 11, 12, 13, 16, 17, 18, 21, 24, 25, 28, 31, 32	1, 8, 9, 13, 15, 23, 25, 26, 27, 28, 29, 30, 32, 33	8, 30, 33
	Regrouping (same grade)	10		5, 6, 10, 21, 22, 24, 35	5, 6, 22, 23, 35
	Across-grade			2, 3, 4	3, 4, 16
Mixed Ability		11, 16, 17, 22, 23, 26, 27, 28, 34	1, 5, 6, 8, 9, 13, 14, 17, 18, 20, 21, 24, 25, 26, 27, 28, 29, 31, 32, 34		14

As shown in Table 5, 16 more interviews with teachers in the remaining schools added no new categories. An additional five interviews further tested the framework for completeness and ensured that teachers in all grades K-6 were represented. These five interviews revealed no new categories of classroom grouping. (See

Appendix B for information about the chronology and characteristics of teacher interviews.)

Data Analysis

As stated earlier, data collection and analysis in qualitative studies often occur simultaneously (Goetz & LeCompte, 1984; Taylor & Bogdan, 1984; Wiersma, 1986). Data analysis begun while fieldwork is underway, however, extends beyond the data collection phase until a final report is complete. Three concurrent activities characterize analysis of qualitative data: reduction, display, and conclusion drawing/verification (Miles & Huberman, 1984).

Reduction of data occurs throughout qualitative studies as researchers formulate questions, select participants, and tease out emerging themes (Miles & Huberman, 1984). When open-ended interviews produce a voluminous collection of transcripts, data reduction is a necessary part of analysis. Goetz and LeCompte (1984) call this process "data crunching" (p. 167). In this present study, data reduction was guided by the seven subquestions listed at the beginning of this chapter.

Transcripts were read carefully, with frequent notations of practices, hunches, possible trends, and interpretations. Some categories were immediately apparent, such as within-class grouping practices and distinctions between temporary and ongoing classroom groups. Many of these categories describe what teachers say they do. Other categories emerged as themes and required a look for deeper meaning, as in the analysis of teachers' perceptions of how grouping affects student learning. These themes tend to be more interpretive. Classification of emergent categories and themes involved a systematic process of coding data. Categories and themes identified in initial

analysis were listed and assigned an alphabetic code. Table 6 lists codes used in data analysis in the present study.

Table 6
Data analysis codes

Research Question #1: How do Coalition elementary schools group students for instruction?	
CPC: classroom placement criteria	WC: within-class
BC: between-class	BG: between-grade
SA: similar-ability	MA: mixed-ability
OG: ongoing	AH: ad hoc
SC: self-contained	TT: team teaching
DEPT: departments	

Research Question #2: What do Coalition elementary teachers perceive are the effects of existing grouping practices on student learning?		
Learning conditions:		
PACE: pace	COOP: cooperation	IMAGE: self-image
CON: content	LEAD: leadership	MOT: motivation
TEXP: teacher-expectation	TEAM: teamwork	CHAL: challenge
TUTOR: peer tutoring	SHARE: sharing	MC: metacognition
SEXP: self-expectation	REL: relationships	FRUS: frustration
OVER: overheard instruction		
AWARE: awareness of others		
CREA: creative expression		
MUT: mutual learning		
MODEL: modeling (top down)		

Influencial factors:	
OUT: outside influences	MAT: materials
NORMS: school norms	LIMITS: limits to time, energy, etc.
HOME: students' familylife	PHIL: personal philosophy
CC: class characteristics	ID: "It depends...."
BASAL: basal readers	TPB: trade paperbacks
PROD: group productivity	MAN: mandates
TIME: available time	SIZE: size of group or class
PREF: preference of teacher	

Teacher-interview transcripts and notes, arranged in order of occurance, were reread line-by-line. Whenever quotes seemed relevant to particular themes, codes were noted in transcript margins. A

caution from Taylor and Bogdan (1984) was apt, "The cardinal rule of coding in qualitative analysis is making the codes fit the data and not vice versa" (p. 137).

Data reduction involves identification of themes and assignment of codes. "The researcher's choices of which data chunks to code, which to pull out, which patterns summarize a number of chunks, what the evolving story is, are all analytic choices. Data reduction is a form of analysis that sharpens, sorts, focuses, discards, and organizes data in such a way that 'final' conclusions can be drawn and verified" (Miles & Huberman, 1984, p. 21).

Once transcripts are coded, data are sorted into clusters by code category. In this present study, sorting was not done manually, ie. cutting up the transcripts, as suggested by Miles and Huberman (1984) and Taylor and Bogdan (1984). Rather, a list of evidence supporting each code was maintained separately, with negative cases included in order to realize a deeper understanding of teachers' perceptions. Data displays linking transcripts with reported patterns are included as appendices when findings are described in the next chapter.

Chapter Summary

The research design for the present study employed qualitative research methods to describe the practices and perceptions of a particular group of principals and teachers in relation to school and classroom grouping. Data were collected from 47 interviews with principals and selected teachers representing Grades K-6 in 12 diverse elementary schools associated with the Coalition for School Improvement. Two major research questions and seven subquestions guided the open-ended interviews.

The researcher examined field notes and interview transcripts for emerging patterns descriptive of grouping practices and teachers' perceptions of how existing practices affect student learning. Emergent patterns helped focus subsequent interviews and determined the size of the sample of Coalition elementary teachers. The researcher employed a systematic process of coding data in relation to identified patterns in order to organize data for further analysis, present evidence to support conclusions, and formulate recommendations for further research.

CHAPTER 4
ANALYSIS OF DATA

This study describes how Coalition elementary schools group students for instruction and what teachers perceive are the effects of grouping practices on student learning. Analysis of data in this chapter occurs in two sections, each section corresponding to a major research question guiding the study. The first section answers the question: How do Coalition elementary schools group students for instruction? The second section answers the question: What do Coalition elementary school teachers perceive are the effects of existing grouping practices on student learning?

How Schools Group Students for Instruction

In data analysis, it is important to remember different levels of grouping (Barr & Dreeben, 1983). Decisions are made at the district level about which group of students will attend each school. At the school level, students are sorted into grades and classrooms. Within classrooms, students are divided into temporary and ongoing groups for instruction.

To understand how Coalition elementary schools group students for instruction, the researcher must first obtain information on how students are placed into classes. Then, within-class instructional groups can be understood in the context of school-wide organization.

How are schools organized into classes?

Principals of all 12 schools report "heterogeneous" classes. In the present study, the word "heterogeneous" is applied to groups formed by assigning students randomly or by arranging groups according to such characteristics as gender, race, ethnicity, ability, achievement, and interest to ensure diversity. "Heterogeneous" means those groups

formed to achieve diversity rather than to achieve a limited range of student ability. This means that efforts are made to ensure a broad range of student abilities in each class, within the context of the characteristics of students served by the school. Because schools reflect the communities they serve, it is not assumed that all 181 elementary classrooms in the study have a similar range of student abilities.

In five Coalition schools (A, B, E, F, and L), some classrooms are the only option for students in a particular grade. These classrooms reflect the heterogeneity of the community, since age or grade designation are the only criteria for student placement. When schools have sufficient numbers of students in a grade to form two or more classes, a variety of criteria are used.

What criteria are used to place students in classes?

In all 12 schools, the assignment of students to classes is the ultimate responsibility of the school principal, although most rely on recommendations from teachers. In all 12 schools, principals report they attempt to create "balanced" classes along such criteria as race, gender, teacher assessment of ability, reading level, social skills, language proficiency, developmental readiness, and special needs.

Most principals try to assign an equal number of boys and girls to each class. They also try to spread out the "problems" generated by children who misbehave or who require special education services. Further efforts are made by most principals to ensure that a range of reading levels are reflected in each class.

Three schools are in racially-diverse urban areas, but only two consider race or ethnic origin in classroom placement. The principal

of the predominantly-white third school expects race to be a factor in future placement decisions when the district begins court-ordered racial desegregation of schools. In all cases, emphasis will be on creating racially-balanced classrooms or homerooms.

Most principals consider input from parents in making placement decisions, although several maintain that this consideration is "unofficial." Of the principals mentioning parent input as a criteria for placement, most comment that requests must be for substantial and appropriate reasons, based on children's specific needs rather than parental whim.

Ability-grouped class assignment, in which students are assigned to classes to limit the range of student abilities in each class does not occur in any of the 12 Coalition elementary schools. However, "developmental placement" in the primary classrooms of four schools has some sorting connotations. In these four schools, principals describe how students are assigned to kindergarten and first-grade classrooms according to such characteristics as attention span, confidence, and organization. In each case, student readiness for kindergarten or first grade is determined by assessment of maturity rather than IQ or academic achievement. Table 7 shows how primary classrooms in these four schools are organized.

Table 7
Primary classrooms with developmental placement

School	Readiness K	K	Transitional 1	1
E	1	1		1
F	1	1		1
G		8	1	5
J		2	1	2*
*These two classes combine first and second grades.				

In Schools E and F, a Gesell kindergarten readiness test is administered to all entering students to determine whether they are placed in a "readiness" kindergarten or a regular kindergarten. One principal explained that students assigned to the readiness kindergarten will likely spend two year in kindergarten, moving from the readiness kindergarten to the regular kindergarten class after the first year. The other two schools listed in Table 7 include "readiness" classrooms to ease the transition from kindergarten to first grade. Both principals maintain that ability is not a factor in placement. Rather, they suggest that classes of less-mature children include a range of student abilities. Even so, such classes reflect efforts to limit variation among students and warrant mention as somewhat related to ability-grouped class assignment.

How are classes organized?

All of the schools rely on traditional grade designations, although some schools combine two grades in one classroom. Team teaching appears frequently in the data, although its specific characteristics vary from school to school. Two schools have departmentalized Grades 5 and 6. Table 8 summarizes classroom organization and shows that most classes are self-contained with students of a single grade. All 38 kindergarten classes in the 12 schools are in the "self-contained" category.

Table 8
Frequency distribution for class organization (n=181)

Class Organization	f	%f
Self-contained, single grade	115	64
Self-contained, combined grades	2	1
Team teaching, single grade	47	26
Team teaching, combined grades	10	5
Departments	7	4
Totals	181	100

The 12 elementary schools in the Coalition divide into two general size groups. Eight schools are relatively small, with enrollments of fewer than 300 students. Four schools are somewhat larger, with enrollments greater than 400 students. Of the single-grade classes that are team taught, virtually all 47 occur in larger schools (Schools C, D, I) and/or urban school districts (School H).

As shown in Figures 1 and 2, the majority of classes in smaller schools are self-contained, whereas in larger schools class organization is divided more evenly between self-contained and team teaching. The percentages displayed in Figures 1 and 2 suggest that Coalition schools using team teaching are more likely to be large. However, it does not imply that large schools are more likely to adopt team teaching, as evidenced by the largest Coalition elementary school (G), organized into 33 self-contained classrooms. (See Appendix C for school characteristics and placement criteria.)

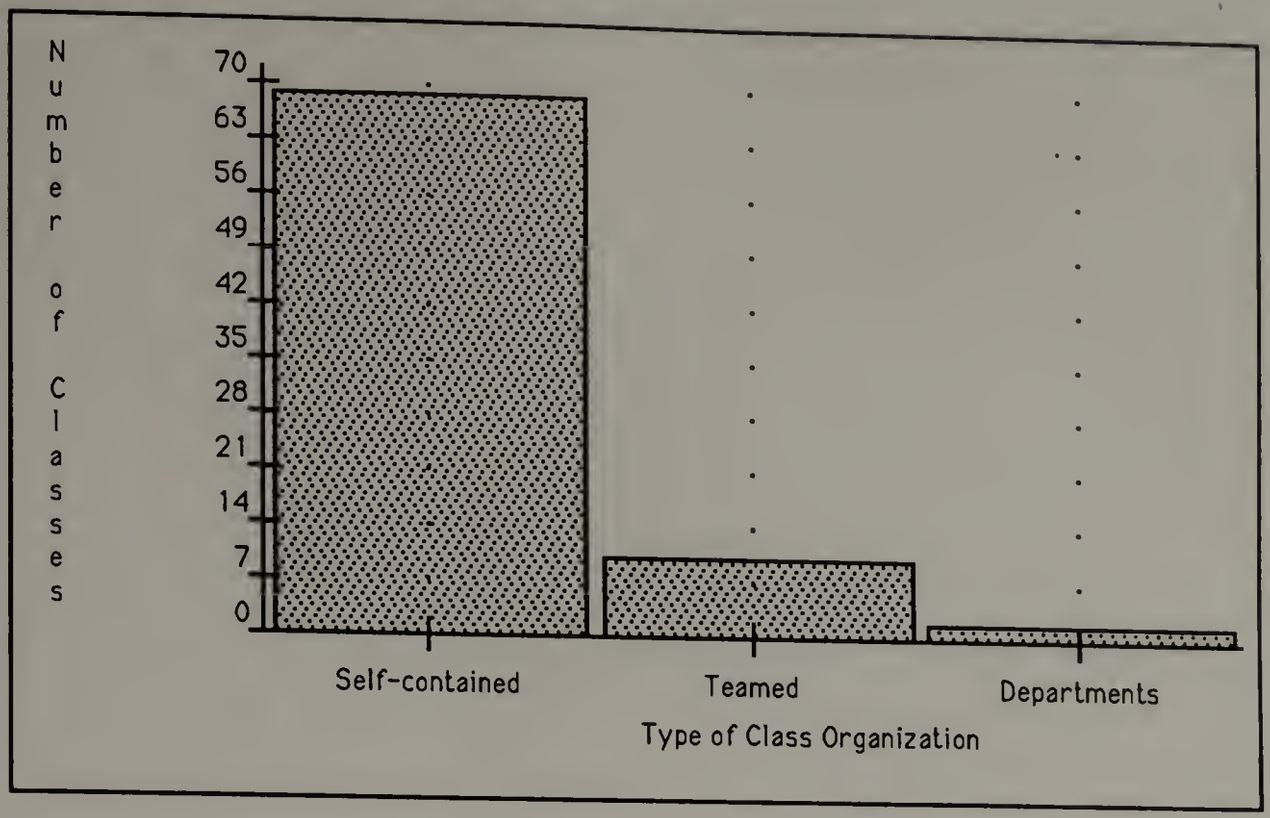

Figure 1
Class organization in eight smaller schools (n=81 classes)

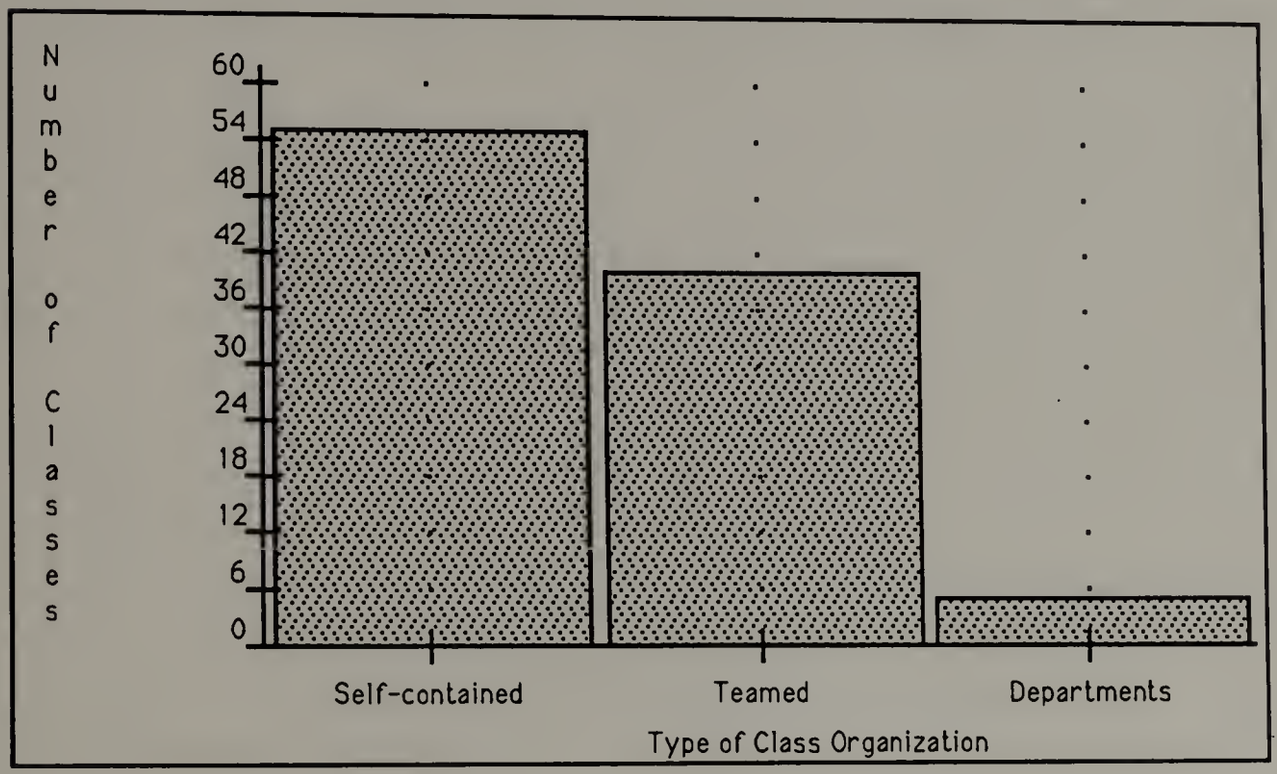

Figure 2
Class organization in four larger schools (n=100 classes)

How are students grouped for instruction within classes?

The connection between class organization and grouping becomes clearer in analysis of data about within-class instructional groups. The 34 classroom teachers interviewed in the present study suggest that within-class instructional groups occur mostly in self-contained classrooms and regrouping within a grade for specific subjects occurs mostly when two or more teachers form a team.

Figure 3 shows how teachers in self-contained, teamed, and departmental classrooms group students for reading. The two teams who form within-class reading groups represent bilingual classes, team taught by a Spanish-speaking teacher and a teacher of "English as a second language" (ESL). In these bilingual settings, reading groups are within the class of approximately 20 students. Teachers team teach according to language proficiency, with students moving from instruction in Spanish to instruction in English as skills, comfort, and confidence develop. The three teachers in departmental classrooms use within-class ability grouping because they all schedule reading instruction during heterogeneous homeroom time.

Teachers reported a wide variety of classroom grouping practices, including group formation both to limit and broaden ability range, in both temporary and ongoing arrangements of students. The most common practice reported by teachers is introduction of information, skills, or concepts to the entire class. In some situations, the class may include students "regrouped" by ability from two or more heterogeneous homerooms. However, teachers also report further divisions of self-contained or regrouped classes to form small instruction or work groups.

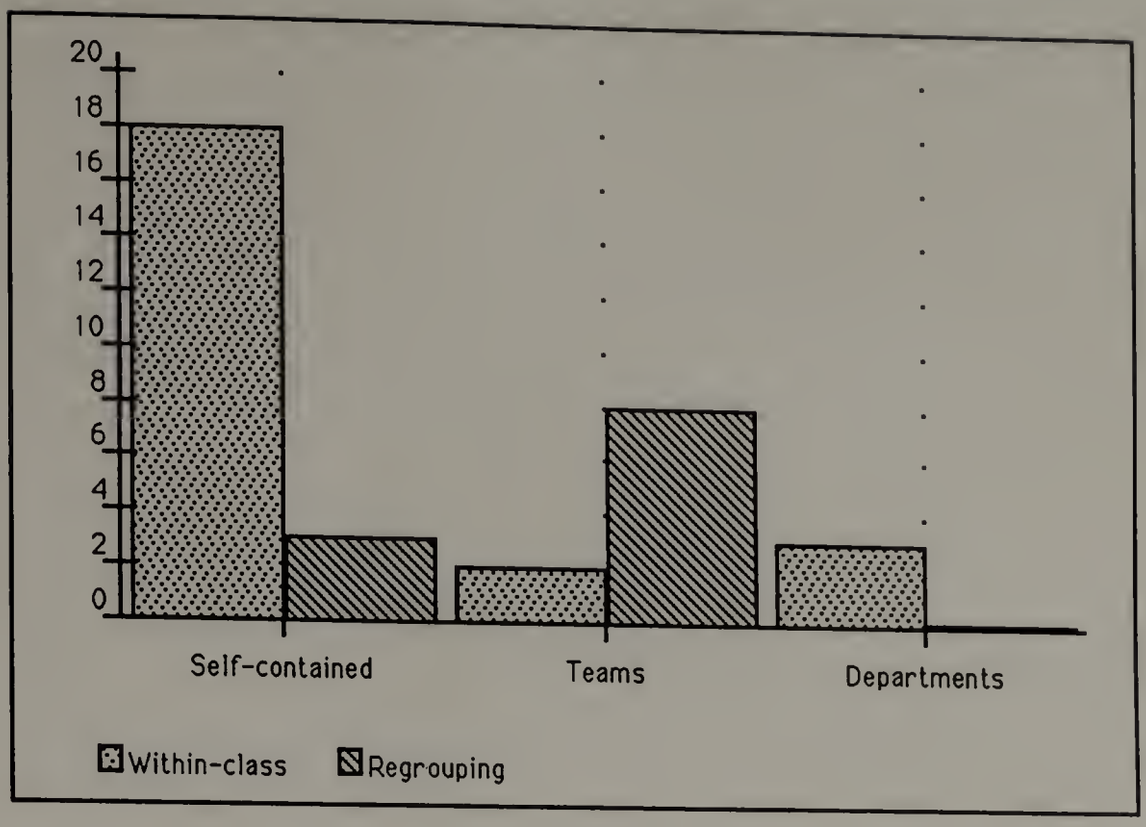

Figure 3
Class organization and grouping for reading (n=34 classes)

Analysis of interview data reveals some interesting patterns. The vast majority of classroom teachers (97%) report that they create small groups of students in order to narrow the range of student abilities, either temporarily for specific skills or continuously for instruction in specific subjects. However, the teachers (97%) also report that they make some use of mixed-ability groups, either ad hoc or ongoing.

How do teachers group students for different subjects?

The creation of small groups of students for instruction occurs often in reading and mathematics. Table 9 reports data drawn from interview transcripts. It shows the percentage of teachers who report using specific classroom grouping practices for reading and mathematics instruction.

Table 9
Percentage of classroom teachers reporting specific grouping practices in reading and mathematics (n=34)

	Similar-ability		Mixed-ability	
Subject	Ad hoc	On-going	Ad hoc	On-going
Reading (n=34)	29	74	26	3
Mathematics (n=32)	53	34	63	0

As shown in Table 9, data indicate that most teachers form on-going ability groups for reading, while use of mixed-ability groups is almost entirely on an ad hoc basis. Some teachers make consistent use of ad hoc groups, such as teachers who link students with different abilities for peer tutoring. Other teachers form ad hoc groups as needed, such as teachers who bring together students who are struggling with a specific skill.

In mathematics, most (81%) of the teachers who teach math report presenting lessons to the whole class (77% heterogeneous class, 23% class regrouped by ability). Most then form ad hoc similar-ability groups as needed, such as teachers who bring together students having difficulty with independent practice. Teachers also use mixed-ability pairs or small groups following whole-class instruction, such as cooperative learning teams to solve math problems presented to the class as a whole. Teachers encourage use of concrete objects in these problem-solving activities. A teacher explains, "All children need to conceptualize math using concrete materials. It's incredible what they teach each other." Students teaching students is also evident in frequent reports of peer tutoring in math. Almost half of the teachers who present math lessons to the whole class report mixed-ability pairs of students for peer tutoring.

Ongoing math ability groups occur in the classrooms of only 34% of the teachers interviewed. Of these eleven classrooms, eight are classes formed by regrouping and three are self-contained classes divided into similar-ability instruction groups. (See Appendix D for data summary for classroom math groups.)

Unlike mathematics, ongoing similar-ability groups dominate reading instruction. A second-grade teacher explains, "The only time I break them for ability is for reading."

Twenty-five teachers form ongoing groups to limit the range of students' reading abilities, either by regrouping students from two or more homerooms or by dividing a self-contained class into two or more reading groups. For the most part (71% of classroom teachers interviewed), reading is taught primarily using multi-leveled, sequenced basal readers. Six additional classroom teachers (18%) use basal readers along with other materials, such as novels or student compositions. Most teachers using basal readers exclusively (83%) assign students to ongoing, similar-ability reading groups. The number of reading groups for each teacher ranges from one, as in regrouped classes, to seven. Teachers report two and three groups per class most often. (See Appendix E for data summary for classroom reading groups.)

In order to place students into reading groups, teachers make judgments about ability. Nineteen teachers described how they place students into reading ability groups.In general, they report relying on three sources of placement information: testing, observing, and consulting each child's previous teacher. Most (84%) look to children's previous teachers for information and guidance. About half also rely on tests and their own observations and assessments.

In the three urban schools and two large suburban schools, the primary criteria for reading group placement is "where the children left off last year." As one teacher says:

> Some of the other kids who have not finished second-grade books pick up where they left off, literally on the page. The second grade teachers have tried to get them through a section. There's a section test halfway through the book. Then we will start in the middle of the book. It's grouping to where they are instructionally.

Teachers and principals in the urban schools reported that information about reading levels is maintained by a reading specialist who assists in class formation. In all cases, efforts are made to ensure that each classroom receives children reading at different levels in the textbook series. The reading specialist in one school describes class formation:

> Each teacher says where their children are in reading on the last day of school, how far they've gotten in the reading series. For each grade, a list is prepared, putting all of the top groups together as a list of good children, good readers. Then I put all the middle children together, and then I put all the children who need a little extra help together. From the list for each grade, the principal takes an equal number of good kids and gives them to all of the teachers equally. Then he gives them an equal number of middle and low kids.

Data indicate elaborate systems for monitoring the reading levels of urban children. Reading specialists play a key role in keeping track of children's progress in reading groups, maintaining lists of children and where they are reading. They monitor textbook reading tests, and intervene with remediation materials when children get failing grades. The reading specialist describes why, "In a building this large, some children can get lost. The reason we keep such a tight hold on the classroom reading program is so that a child doesn't get lost."

Urban educators also describe problems less-familiar to their rural and suburban colleagues, such as high rates of student turnover. Principals cite student mobility as a reason for strict adherence to basal reading programs. The reading specialist interviewed estimates annual enrollment shifts in the city involving as many as 200 students.

Some urban educators express concern about the skills children bring to school. One said, "65% of the families are single-parent and 85% are latchkey kids. This does not mean children aren't cared for, but it does indicate the time available for parents to spend with the child in reading, going on field trips." Another teacher said:

> I really think there's so much to be said for hearing stories and being prepared for reading. A lot of children haven't been exposed before they go to kindergarten, so at kindergarten they're getting what someone else did when they were three. It's not that they aren't very bright. They could be, but it's not coming out that way.

In subjects other than reading, ad hoc groups are far more common. In science and social studies, for example, ad hoc mixed-ability groups are the norm for organizing students into work groups for subject-related projects. No teachers report ongoing groups for science or social studies, and only one teacher creates similar-ability groups, usually when a social studies theme is linked with reading historical novels or non-fiction references. (See Appendix F for data summary for classroom science and social studies groups.)

Ad hoc groups, both similar- and mixed-ability, are also common in classroom writing. Many teachers initially describe writing as a whole-class activity, but a closer look at interview data reveals that "whole-class" means introduction of concepts or skills before work begins on individual writing projects. It also refers to bringing the

class back together after independent writing for "author's circles," in which students read their compositions to their classmates.

Over half of the teachers interviewed enthusiastically subscribe to "process writing," an innovative approach to writing instruction developed, most notably, by Donald Graves and others at the University of New Hampshire. The steps associated with process writing (writing, editing, conferencing, and publishing) defy categorization in relation to grouping practices. However, the importance of peers in "process writing" is evident consistently. Teachers describe students talking among themselves about their work, reading stories to each other, and editing friends' compositions. Some small groups are teacher-arranged to combine students with differing skills; some are student-selected according to friendships; and, some include whoever has completed a draft. Teachers say that sorting students by ability rarely occurs, usually limited to ad hoc instruction groups focused on a specific writing skill. They also say that mixed-ability groups are common. (See Appendix G for data summary for classroom English/writing groups.)

In summary, the specific grouping practices of the 34 classroom teachers interviewed in this present study are many and varied. From the variety, however, several themes emerge. It is clear that differences exist in grouping practices for different academic subjects traditionally taught in elementary classrooms. With the exception of reading, which is usually taught in similar-ability, ongoing ability groups, most teachers introduce lessons to entire classes and then employ several grouping methods to deal with the heterogeneity of student learning. Common grouping methods following whole-class instruction include ad hoc skill groups, peer tutoring, and cooperative

learning pairs or teams. Discovering what teachers perceive are the effects of grouping practices on student learning is the focus of the second section of this chapter.

Teachers' Perceptions of Grouping's Effects on Students

Interview questions eliciting teachers' perceptions about existing grouping practices emerged in a conversational manner as teachers described how they group students in specific academic subjects. Questions such as, "Why do you group students this way?" and "How does this particular grouping affect student learning?" led teachers to describe learning conditions they perceive are affected by grouping. In describing why they group the way they do, teachers convey perceptions of how grouping promotes learning. They also refer to other factors that influence grouping decisions.

What do teachers perceive are the ways grouping practices promote student learning?

Teachers perceive that grouping affects instructional conditions, students' personal development, student interaction, and how students view each other in the social context of the classroom. (See Appendix H for teachers' perceptions of conditions affected by groupings.) Three categories reflect patterns in the interview data:

1. conditions related to instruction
2. conditions affecting students' personal development
3. conditions related to students' social interactions

Instructional conditions. Teachers' comments suggest that grouping affects instruction which in turn affects student achievement. Over half of the teachers interviewed (63%) describe their reasons for creating ongoing similar-ability groups in terms of instructional

content or pace. In reading, teachers made it clear that they do not want to "hold back" students who are able to move quickly through sequenced basal readers. Similarly, they want to work at an "appropriate level and pace" with students whose reading skills are less-well-developed. One teacher "can't imagine having the lower-level students trying to keep up with the above-average students."

For most teachers who give "pace" as a reason for similar-ability grouping, instructional rate refers to the speed with which students progress through multi-leveled, sequenced materials. Students who progress through the sequenced materials ahead of their classmates are described as faster, brighter, better, higher, and stronger. Such language indicates that teachers may perceive children largely in relation to their classmates. With such attention to relative status, there will always be a bottom, no matter how bright or how skilled the children.

A few teachers question the wisdom of moving students as quickly as possible through a continuum of skills. A teacher of Hispanic second-graders in an urban school says:

> People are so anxious to get kids reading, it's as if none of those other things are important or they don't really give them the experience that will make them blossom later on. Society puts a lot of pressure on and teachers feel guilt.

Another teacher describes how heterogeneous classes allow for a slower pace that is beneficial to students:

> I think that there are a lot of ways that you can extend what you're doing without crashing ahead. In going at a slower pace, we're taking more time to look at things, to enrich what we're doing, instead of moving right ahead into another book and keeping our pace very very quick. We're going at a slower pace and, as I say, just kind of elaborating more on what we're doing.

Her thoughts are echoed by a colleague in another city:

> I like a self-contained room. You're going at a nicer pace. You're not competing. You're not saying, "I'm better than you are because I'm in a top group." No-one seems to know, nor do they care this year.

Often, pace and content are connected as teachers vary instructional materials according to perceptions of abilities.

> We do a lot of novel reading, and it makes a difference which books you choose for a particular book.
>
> In fact, I've taken [the higher-ability children] into the computer room and tried to give them a little different experience with math instead of the same thing, because they really have the skills that the bulk of the children are covering right now.
>
> In reading, with the bright students you are able to do more creative thinking activities. I've collected materials over the years to challenge these top students.

In some cases, children in a class or grade begin the year in the same book. Different instructional conditions develop as some groups move faster than others. One teacher explains how group pace affects student learning when 80 children are regrouped into similar-ability classes for math instruction:

> At one time, the next class and mine were basically one day apart from each other. That's how close the two groups were. Well now, I'm still doing multiplication, and she's already done division and is into geometry.

Sometimes, low groups don't finish the book. Another teacher shrugs, "It happens all the time for me. With the lower kids, I just don't get through it." Yet teachers often mention matching student characteristics and instructional pace in justifying ability grouping. Teachers maintain that since children learn at different rates, instructional pace should vary accordingly.

> In heterogeneous grouping, the ability span in the class would really make it almost impossible for the children to use the same material and move at the same rate.

Data further indicate that teachers have different expectations for high- and low-achieving students. Teachers report going faster to challenge advanced students and reducing work requirements to enable less-skilled students to succeed. They provide different spelling lists, plan different activities for the same material, ask different questions, and require different quality writing. While such varied treatments for students with different abilities may be appropriate in meeting student needs, the danger is that different instruction may lead children to live up to reduced or lowered expectations. An example of this danger comes from a sixth grade teacher:

> As far as the English, some of these kids are not going to go on to college. Some of the things we're doing they really don't need, and yet other kids we know are. That's why I'd like to see some sort of tracking when we go to the high school, or grouping within classes.

Inappropriate judging of young children is further echoed in the comments of a kindergarten teacher:

> Some come along very quickly and will never have a problem in life, and then you have some who are average; they're going to stay average. Then you have some that are below. They're striving, but it's almost like you sense the ones that are going to do well with reading through school.

Personal conditions. Most teachers interviewed believe that grouping decisions affect students personally, particularly in terms of motivation, challenge, frustration, and self-image. Opinions about the merits of homogeneous or heterogeneous grouping, however, are mixed.

Some teacher perceive that ability grouping diminishes student awareness of individual differences; others maintain that sorting students by ability accentuates awareness of differences. To justify similar-ability groups, teachers say that separation from more-able classmates reduces frustration for the lower-ability child. To justify

mixed-ability groups, teachers say inclusion with more-able classmates promotes the lower-ability child's positive feelings about self.

Most teachers who link grouping with student self-image think that lower-ability students feel badly about themselves when ability groups are pronounced and inflexible. Teachers who form mixed-ability instruction groups are the most outspoken. One teacher provides an example:

> I found that kids who were very poor readers became poorer readers because they saw themselves as poor readers. It was a self-fulfilling prophecy. Everybody knew they were doing poorly. They knew they were doing poorly. I decided if I was a kid and it was me, I'd spend most of reading class in tears, because I wouldn't want to read this second-grade book in third grade while every-body else was reading something else. My first motivation was to ditch those books for the kids' self images.

A first-grade teacher who recently changed from traditional reading groups to mixed-ability (ad hoc) reading groups explains why she'll continue mixing abilities:

> The self images of children in bottom reading groups have improved dramatically. No one sees him/herself as a bottom reader anymore. The children are much more appreciative of each other's powers, more sensitive to one another.

Even teachers who use similar-ability reading groups express support for heterogeneous classes. One second grade teacher who recently changed from a homogeneous to a heterogeneous class explains:

> Now they're in the same class. They don't really know where they are, and they don't really care. They never ask, "Is this the top?" We just say, "Pretty soon Book D will be finished. They'll be in Book E. Book E people are still in Book E and they'll be moving into another book." It doesn't have the stigma that it did before.

Teachers who use similar-ability groups see parallels between self-image and challenge. They fear that mixed-ability groups would frustrate lower-ability children by accentuating deficiencies. One

second-grade teacher explains how proud her lower-ability children are of each accomplishment in their own separate group. She explains:

> Really, if they were with the other ones, they'd feel the frustration, especially at the level... you know, 8-year-old or 7-year-old, I think would be aware of it as opposed to someone 4 or 5 or 6. There's a difference. I think they'd say, [anxious voice] "Why don't I know that? Why can't I do that?"

Her sentiments are reflected in another teacher's comments:

> To put one of my slower readers in with a group that reads effortlessly would be frustrating for each I would think. Real efficient learning wouldn't be taking place. You need to take a child from where he is as fast as he can go, and I think that kids are widely different.

To balance concern for self-image with fear of frustration, teachers stress the importance of learning tasks that challenge students without overwhelming them. For some teachers, grouping promotes "the level of experiences they need without being frustrated at too little or too many. And so I can develop them as far as they're willing to go."

Two general strategies for challenging students emerge from interview data. One is providing extra work for students who complete assignments quickly and easily. Examples of extra work include additional spelling words, extra credit for book reports, and independent math activities. A second strategy for challenging students is moving them to a higher-level group, as one teacher explains:

> As soon as I see that a child is capable of moving up, I will have him tested and they are moved up. This year alone in my group, we moved up five kids.

Teachers see student motivation as a key to upward mobility through ability groups. The desire to move students "as far as they're willing to go" is expressed frequently:

> Sometimes a child will be in two groups. He needs some of the skills that are still in the lower end of whatever group, but he is getting better so we don't want the gap to get any wider between his group and the next group up so we let him into two groups. That works very well because it's a little motivation because the child knows that he's moving his way into the next reading group, and they like that.
>
> Some of them are highly motivated and read more frequently at home, and are just more able students, and they are able to move along more quickly.
>
> It isn't how smart you are, it's how you are able to present yourself and the type of work you put into it.
>
> One time we placed a child in a top group instead of the low at the parents' request. The child was highly motivated to succeed and always did the work. Success breeds success, and it worked out.
>
> I can think of three children that I moved up and tried it. Two stayed and one did not. Those two who stayed up in the more motivated group, it takes a push to keep them up. As long as they're willing to push and they're not frustrated by it.... I think maybe they were kind of stuck in that other section.

The concept of balance is important in understanding teachers' perceptions of groupings' effect on students. The same teachers who defend similar-ability groups as less frustrating for lower-ability students often advocate mixed-ability groups in other subjects. One teacher explains:

> I'm really interested in cooperative learning, so whenever we do project-oriented subjects... it works quite nicely. When I work on cooperative learning projects I'm interested in grouping heterogeneously.
> When it comes to reading and math, I feel it works better to have homogeneous groups.

The teacher goes on to explain that students need to acquire skills in reading and math without the frustration of instruction beyond their readiness. She sees reading and math as skill-based and sequencial, whereas science and social studies are more "holistic."

Most teachers do not see classroom grouping decisions as dichotomous. Rather, they use both similar- and mixed-ability groups and perceive that both are appropriate to certain settings. They aim to balance concerns for the academic, personal, and social development of students. A teacher who sees instructional advantages in ability grouping, describes her concerns about personal effects in this way:

> I think if the teachers are aware and are trying to build some self confidence, I don't think those kids [in low groups] suffer really. Because I think we're looking at them from the point of view of their personalities and being sensitive to that. So we try not to make a big differentiation between the groups.

Social conditions. Almost 75% of the teacher interviewed mentioned social conditions (sharing, awareness of others, peer relationships, modeling, cooperation, teamwork, mutual learning) as reasons for heterogeneous classes or mixed-ability instruction groups. Even teachers who have chosen similar-ability grouping express the belief that lower-ability children benefit from having higher-ability role models.

Almost half of the teachers interviewed see advantages in students modeling knowledge, skills, and behavior for classmates. Below, six teachers describe why they form mixed-ability groups:

> [science/social studies] So we try to pair them with some more-able students, the children who really have all the directions down pat so they could share them.

> [science/social studies] I think the less-able children can learn a lot from the more-able and I think conversely in certain areas....

> [reading] What's nice about it is that there are role models for the kids who aren't reading as well.

> [science] Well, just to encourage those who know more to spark the ones who don't.

[partners-all subjects] The C children rise to the challenge. They want to achieve more. They want to model after the A children.

[partners-math] The above-average children, sometimes, come up with some really good ideas that a slower learner will pick up and really expand on once they've seen it done once.

While the connotations for "modeling" are somewhat top-down, with higher-ability students modeling skills and behavior for their lower-ability classmates, teachers also see opportunities for mutual learning in mixed-ability groups.

So that when you mesh them together, you have a child who is not that good a reader but has developed a very good survival mechanism - memory skill - match with a child who is a good reader but doesn't quite have the memory skills. Put those two together and you've matched a skill.

Mixed-ability pairs mix kids in ways that might not otherwise occur, and both partners benefit academically.

The ESL [English as a second language] groups tend to be heterogeneous because kids tend to pick up more from their peers than from the teacher; then tend to listen more.

In many cases, I find a C student who perhaps is very artistic, a C student who has an interest in animals... may help an A student with the name of an animal in a book they don't know. It's not just a one-way street.

I do [mixed-ability grouping] to get the juices flowing. I think a lot of times when the adrenaline is high in the other person.... especially when they are in groups of three. That's when I really see it. They kind of feed off each other. Just two and it's back-and-forth, but three, they kind of all get going together.

In describing social conditions promoted by heterogeneous classes and mixed-ability instruction groups, teachers express desire for positive interpersonal relations among students. Often, they express the advantages to higher-ability students:

Maybe make the ones who are very fast aware of the problems of the ones who are slow - how their minds might work differently.

They don't get as, "Ha, ha, ha. I'm going to room such-and-such." It's much easier in a setting like this. It's kind of funny; it's almost an attitude I guess.

I think it's very helpful for the A students to see that learning is not easy for everyone... and to be understanding and helpful to those people and not be haughty about the fact that you know and they don't know, but more of a helper... I don't want the A children to have this elitist attitude. We're all friends together. We're all learning together. That's very important to me.

Both ends are benefitting because the more-proficient kids feels like he knows a lot of things and is able to help someone who has just come [from Puerto Rico]. Maybe that child even remembers how he felt when he was at that point.

I wonder if they don't get self-satisfaction from helping someone. Self-satisfaction from helping and feeling a little more important.

You can't just call on your bright ones all the time. You have to give the others a chance. The bright ones have to learn to be patient and listen.

In summary, teachers tend to defend similar-ability groups on instructional grounds, particularly in reference to maintaining appropriate content and pace in reading and math instruction. They perceive that similar-ability groups are less frustrating for students, because of reduced teacher expectations and reduced competition with peers. Mixed-ability groups, on the other hand, are defended because of social benefits to children. Typically, such mixed-ability groups occur in science and social studies. Teachers' perceptions of groupings' effects on students' personal development are mixed. Proponents of similar-ability grouping cite reduced frustration; proponents of mixed-ability grouping cite improved self image.

All of the teachers interviewed spend at least half of the school day with heterogeneous classes, and only two teachers expressed preference for more homogeneity. In general, teachers support heterogeneous classes because of personal and social benefits to

children. Most teachers (57%) see instructional advantages as well in advanced students helping their less-skilled classmates, both occasionally and in ongoing peer tutoring partnerships.

What factors influence teachers' classroom grouping decisions?

Data suggest that factors other than the relative advantages and disadvantages to students influence teachers' decisions about classroom grouping. When asked why they group students the way they do, many teachers respond in terms of benefit to students. However, teachers also mention personal and classroom limitations. Additional data about school norms, personal philosophy, administrative mandates, class characteristics, available materials and outside influences also are evident. (See Appendix I for reported influences on classroom grouping.)

About half of the teachers interviewed say that class characteristics influence grouping decisions.

> In theory, you could do something different if students score either very high or very low on the pretest. That hasn't happened this year, so we generally go through each chapter as a group.

> In some classes, [grouping] doesn't make too much difference, but the particular fifth grade that I have has a large gamut between abilities. There seems to be no middle.

> I think it varies from year to year.... A lot of it depends on the group.

> We usually group for math when we really all feel a need for it; when we really feel some splitting up in the ability levels and so forth. But this year is kind of a trial period.... Very few of us felt that there was a great difference in the ability level. So far. It may still come. We just haven't done it yet.

> This was to be our first year with math classes taught in heterogeneous homerooms. We went back to regrouping [by ability] for math because the kids demonstrated extremes. Some kids were struggling with basic operations while others were ready to go on.

Yet other teachers divide classes into ongoing instructional groups regardless of ability span in the class. For example, most of the teachers who form ongoing similar-ability reading groups do so as a matter of routine. In some settings, teachers regroup an entire grade into as many ability groups as there are teachers. For other teachers, reading groups are predetermined by prior placement. Reading groups begin the year in the textbook series according to where they left off the previous year, regardless of the range within the class.

In the early grades, the span of reading levels may not vary greatly, as a second-grade teacher who routinely creates reading groups explains:

> There's really not much of a gap in the room. We're all in second grade materials. I'd say there's half a book difference between the two groups, if that.

In another school, a first grade teacher explains that all students begin with readiness materials for the textbook series, but the students in the top (regrouped) class progress through the levels faster. In yet another school, observation field notes in a first grade classroom suggest that regardless of the actual range of reading ability levels in the class, instructional materials are still the same. Again, pace distinguishes among the groups, as shown in the following information about reading groups, copied from assignments posted on the classroom blackboard:

> Group C: Dog Next Door, page 62.
>
> Group H: Dog Next Door, page 71.
>
> Group S: Dog Next Door, page 225.

On the day they were observed (04/14/88), all three reading groups in this first grade classroom were reading the same book; one group in Chapter 1, another in Chapter 2, and the third in Chapter 5. Groups C and H were described as a "low/middle" and a "high/middle" respectively. Group S, described as "the top group," included students from all three first grade rooms. A "low group," taught by another teacher, moves through Dog Next Door at an even slower rate.

Data suggest that by the fourth grade, the gap has widened. Two fourth-grade teachers from different schools describe variance in textbook levels of a year or more:

> Basically, the kids come to us anywhere from the beginning of a 2.2 book - we've had a 2.1 book in the past - to the beginning of a 3.2 book. So we usually have a year to a year and a half span difference.
>
> If they're in fourth grade and they come in on a 2.5 grade level and they finish at a 3.5 grade level, then they pick up at a 3.5 grade level in fifth grade. The problem with that is now we are having kids who are two years below grade level in reading, and it's a problem.

The "problem" is compounded further because teachers feel that there are limits to what they can personally handle. Their comments suggest a finite amount of time, energy, and expertise to plan and teach different groups:

> I think you have to be very careful not to spread yourself too thin as a teacher. If you try to do too much, you will do that.
>
> I could handle three creative writing activities at once, but I can't handle nine. Superman I'm not!
>
> The problem is planning time and being able to get everyone together to do that on a regular basis. We've got the model we like; we just don't have the time or the resources to do it the way we want to.
>
> I have 3 groups. I find that just enough. I think I'd go crazy with four, and you really have to concentrate to even meet with the three and do a decent job of it.

There is no teacher anywhere who can read three novels and make up all those worksheets all at the same time.

In some schools, teachers' time and energy limitations lead to the creation of "equitable" classes. This means that teachers receive equal numbers of "easy" students or teach top groups on a rotating basis:

> [Nobody wants the bottom group] because it's usually more discipline problems and an academically lower rate. The teachers here work well together so we [rotate].

> One would have probably a little bit more if you have the better student, a few more children to work with than if you're the person who has the lower students because of the extra energy it takes to work with the lower children to get them moving a little bit.

> I find it's much more enjoyable to have a [heterogeneous class]. I have more energy to work with the lower-level students that need extra help. When you are doing a low level and you go from low to lower, it's just like - by the time you're finished - you're exhausted.

> They try to divide it evenly so that everybody has a share. They also try to give you the problems, and no teacher should have four or five problems and somebody else have an ideal class.

Limited materials also influence grouping, as indicated by several teachers who determine reading group size by how many books they have. If there are only five copies of a particular novel, then only five children are in the group. The most common limitations affecting grouping decisions, however, are those associated with available time. The difficulty of scheduling small instructional group meetings into a crowded school day was a frequent complaint.

> We do group occasionally for [science and social studies] projects. Those kinds of projects don't come up a great deal. There is just so much of the day that is regimented with all these other things.

> See, we have an hour and a half for reading the way our specialists and all the other schedules come in. I have now taken five minutes off of another period, so I'm doing an hour and 35 minutes. So I do a 30-minute group, two 20-minute groups, and a 25-minute group.

I'm telling you, this schedule was a challenge.

It's not so much that it's body wracking or brain wracking, it's just that kids are kids, and you lose them during transition times. How do you met with that many groups of kids in that period of time? And meet with any depth to it... or is it just to check over a page?

[I introduce math lessons] to the class as a whole, mostly because of time. It's hard to find the time to see each of them in small groups.

I'm not able to do some of the things with the A students as I've been able to do in the past. There just is not enough time.

I feel like I'm pulled because I know what has to be done, but yet I also want to do [whole language activities]. There's just not always the time. I try to bring [whole language] into science and other things I'm doing.

Feeling pulled between required approaches and alternative instructional methods is common as teachers juggle administrative mandates, required curricula, and school norms with their own inclinations. For example, six teachers (21% of teachers interviewed) question the value of strict adherence to basal textbooks. Five use the basal readers required by their school's reading curriculum and experiment with "whole language" activities as a separate subject. One teacher's fantasy reflects similar comments from all five:

> If I could do whole language all day and fling the textbooks out the window, I might try it for a year. The reason we can't is we don't know who they're going to get next year. Unless the whole system is doing it, they might be stuck.

Some teachers chafe at mandates and long to exercise their own professional judgment:

> I kind of would like to maybe do other things with them. It seems so regimented by the curriculum that we're handed, and to get them through this program and to go through all these paces. There doesn't seem to be any flexibility for our own professional judgment, as to what we would rather do, or choose our own program. It's a given, so you just fall into it.

> Yeah well, we're told not to [group. Ad hoc groups are] just my way of meeting the individual needs of children. Otherwise, you just couldn't.
>
> Life is difficult enough without having someone on your back. I think you develop that confidence the longer you teach, especially if you keep active professionally and are learning yourself.
>
> For those who want to explore and delve and dig out, then the freedom could be there. As long as certain skills are being covered. I don't know if a school system could just pinpoint certain skills, and then say, "It's your job to make sure they get covered."

These last two quotes reflect another theme in interview data. Thirteen teachers (37%) described outside influences that have led them to implement alternative instructional practices in their classrooms. Outside influences include university courses, inservice programs, books, grants and the collaborative efforts of the Coalition for School Improvement. Most outside influences have had a corresponding effect on classroom grouping. Teachers experimenting with "whole language" extol the advantages of diverse ideas and viewpoints in heterogeneous groups. Teachers who mention inservice programs in elementary math education create mixed-ability groups for cooperative problem solving. Teachers learning about the "process writing approach" bring together mixed-ability groups for editing and sharing compositions. Grouping, in the above examples, is a byproduct of instructional innovation. The primary goal is improving learning, and varied grouping is but one means to achieving that end. Instructional decisions may include grouping but are not limited to how students are organized. Decisions to group students are linked closely to teachers' goals and strategies for learning.

Chapter Summary

This chapter described analysis of patterns in the interview data. It presented principals' and teachers' reports of different grouping practices in different academic subjects. Furthermore, the chapter organized and described teachers' perceptions of how existing grouping practices affect student learning. In summary, teachers perceive that similar-ability groups promote effective instructional conditions, particularly in relation to content and pacing in reading and math. Teachers perceive that mixed-ability groups promote effective social conditions, particularly in relation to modeling, teamwork, and mutual assistance in science and social studies. Teachers' perceptions of groupings' effects on students' personal development are mixed, with some teachers citing reduced frustration in similar-ability groups while other teachers cite improved self-image in mixed-ability groups.

In general, participating teachers perceive that at times and for some situations, similar-ability grouping may be advantageous to learning. Conversely, mixed-ability groups may benefit student learning in other contexts. The challenge for teachers is to base decisions about grouping on sound information and insights, with commitment to helping all students realize their individual potential.

Data analyzed in this chapter provide a foundation from which to draw conclusions about grouping in Coalition elementary schools and to make recommedations for reform and further inquiry.

CHAPTER 5
SUMMARY, CONCLUSIONS, IMPLICATIONS

The purposes of this chapter are threefold. First, findings are summarized and discussed in relation to prior research. Second, the chapter describes conclusions about grouping in Coalition elementary schools and classrooms, linking findings in the present study with findings in related research. The chapter does not address all possible conclusions; rather, it focuses on six conclusions most supported by patterns in the data. The third purpose of the chapter connects the present study with implications for school-university partnerships, teacher preparation, grouping reform, and further research.

Summary

This study examines: 1) how 12 elementary schools in the Coalition for School Improvement group students for instruction; and, 2) what teachers in those schools perceive are the effects of grouping practices on student learning.

Findings show that all 12 schools use a variety of placement criteria to create classes with a heterogeneous mix of student abilities. Grouping to increase the homogeneity of student abilities occurs when homerooms are regrouped for specific subjects or when self-contained classes are divided into instruction groups. Teachers report that resulting similar-ability groups may be either temporary or ongoing. It is the ongoing similar-ability classes and groups that are synonymous with "ability grouping."

The review of related research suggests that "ability grouping" is of questionable educational value for all students and may be harmful to students assigned to lower ability-grouped classes. The

review further suggests that teachers support ability grouping as educationally sound, despite research evidence to the contrary. The disparity between research on grouping effects and research on teachers' views leads to a crucial distinction.

Simply put, grouping effects and teachers' views must be viewed in the context of specific practice. Research linking grouping with mediating forces provides a richer picture of how grouping affects students. Similarly, research assessing teachers' views in relation to different grouping practices provides a fuller picture of why ability grouping is a preferred form of organizing students for instruction.

Over 75% of classroom teachers participating in this study use ability grouping for reading and/or math. This finding is supported by other research, and it is reasonable to assume that ability grouping is common in these academic subjects. Furthermore, present data in which teachers justify ability grouping support claims made by other researchers that teachers generally favor the practice of ability grouping. Yet issues are more complex than can be summarized in use/abandon and like/dislike dichotomies. Given free reign to talk about any aspect of grouping, teachers consistently discuss grouping in relation to instructional and social conditions affecting students in academic, personal, and social ways. When specific contexts for practices and opinions are considered, patterns in previous research and in current data are illuminating. While the disparity between research and practice is not lessened, parallels between prior research findings and teachers' current justifications for grouping practices shed light on why ability grouping persists.

Prior research suggests that differences in instructional conditions exist among ability groups. Researchers investigating pace, time, mobility, teacher feedback, teacher expectations, and student engagement document that instructional conditions in lower-ability groups may be less favorable to learning than conditions in higher-ability groups. Yet teachers in the present study justify ability grouping in terms of many of the same conditions. They see variation in instructional pace, curricular content, and performance expectations as appropriate ways to meet students' educational needs. They perceive that ability grouping is an effective way to help students develop academic skills, particularly in reading and math.

The disparity between research and practice is less evident in relation to social conditions that mediate between grouping and learning. The review of related research suggests that students in lower-ability groups may suffer from limited friendships, low sociometric status, and poor self images. Much of this research refutes the value of ability-grouped class assignment (Abadzi, 1984, 1985; Barker Lunn, 1970; Rowan & Miracle, 1983). In the present study, teachers seem to agree that ability-grouped class assignment is undesirable. They defend heterogeneous classes and groups in terms of promoting positive social contexts for learning: cooperation, modeling, mutual learning, positive relationships, and teamwork. They perceive that heterogeneous grouping is an effective way to organize students for development of social skills, particularly in science and social studies.

In summary, teachers in the present study defend homogeneous grouping on instructional grounds and heterogeneous grouping on social

grounds. Teachers' perceptions about the impact of various types of grouping on the personal development of students are mixed. Some teachers think heterogeneity motivates and challenges lower-ability students, while others think heterogeneity exposes lower-ability students to frustration and degradation.

Conclusions

In the present study, reports of how teachers group students for instruction are fairly straightforward, although limited because reports are not verified by firsthand observations over time. Understanding why teachers ability group students, however, isn't straightforward. It is more complex because of many variables affecting what occurs. Understanding why teachers ability group students also is limited by what teachers choose to say. It is possible that teachers fabricate reasons for ability grouping to justify what they do. They may want to impress the researcher with knowledgeable insights and compassion for children. They may say what they think is expected of them; or, they may exagerate the frequency or effects of instructional practices.

However, similar comments and concerns from 47 individuals in 12 diverse settings provide a solid footing for interpreting and discussing findings. The foundation is further strengthened by the conversational, non-antagonistic tone of interviews. Patterns in interview data lead to several conclusions about grouping in Coalition elementary schools.

First, all 12 schools attempt to create heterogeneous homerooms or self-contained classes. In most schools, this reflects a shared valuing of diversity at the schoolwide level of organization. In some

schools, there are not enough children to create homogeneous classes economically, even if local educators wanted to do so.

What happens at the classroom level of school organization is less consistent throughout Coalition elementary schools, although some clear patterns do exist. The major pattern is that most classroom teachers create ongoing ability groups for reading instruction. In some settings, ability groups are classes regrouped from heterogeneous homerooms; elsewhere, they occur in self-contained classes.

Second, ability groups operate with different learning conditions, often favoring students in higher groups. The first part of this conclusion comes from present data in which teachers describe varying pace, content, materials, and expectations according to group level. Furthermore, teachers describe variations openly, expressing beliefs that different conditions are educationally appropriate.

The other part of this conclusion comes from comparing present data with prior research. For example, in the present study, teachers perceive that differential group pacing is advantageous to individual learning. In fact, research evidence reported in Chapter 2 suggests that benefits are only for students in higher-ability groups (Commission on Reading, 1985). Furthermore, research shows that individual ability is often unrelated to group assignment (Barr & Dreeben, 1983), suggesting that "it is not so much ability that determines the future attainment of a young child, but the reading group into which the child is initially placed" (Commission on Reading, 1985, p. 90).

In short, teachers perceive that they vary instructional pace in response to individual characteristics. In fact, varying pace may

shape individual performance more than it responds to individual need. Teachers think ability grouping promotes effective instruction, and research shows it hinders learning for some students.

Third, teachers in Coalition elementary schools may hold unexamined assumptions about teaching and learning that influence classroom grouping decisions. For example, teachers' reasons for creating ability groups in reading suggest a linear view of reading development. Grouping decisions are made to facilitate movement through a linear progession of reading skills with the assumption that some students can and should proceed at a faster pace.

Varying instructional pace seems logical when reading is viewed this way. However, the problem may lie with teachers' understanding of reading development, not with how teachers group students. According to Becoming a Nation of Readers, the 1985 Report of the Commission on Reading:

> A common view is that reading is a process in which the pronunciation of words gives access to their meanings; the meanings of the words add together to form the meaning of clauses and sentences; and the meaning of sentences combine to produce the meanings of paragraphs. In this conception, readers are viewed as always 'starting at the bottom' - identifying letters - and then working up through words and sentences to higher levels until they finally understand the meaning of the text. However, research establishes that the foregoing view of reading is only partly correct. (p. 8)

This suggests that teachers may hold faulty assumptions about reading development that influence subsequent instructional decisions. It also suggests that teachers may be uninformed about current findings in reading research.

Perhaps the most striking assumption revealed in this study is the belief that ability groups promote appropriate instructional

conditions for all students. Teachers want to challenge the bright without frustrating the slow. They want to move quickly with the "rabbits" without leaving behind the "turtles." Indeed, the metaphor is apt because teachers perceive that student differences are indiginous. As a result, ability grouping occurs under the guise of tailoring instruction to need. The assumption that students must be placed into similar-ability groups to achieve appropriate content and pacing is largely unquestioned. As one teacher put it, "When I first started teaching, you were expected to have three groups. You wouldn't even think to question it. People would think you were losing your mind. Sometimes that hinders you from trying anything different."

In the present study, ability groups are entrenched firmly in school and classroom norms. Alternatives to ability grouping in reading often supplement rather than replace traditional grouping methods. Teachers report experiments with ad hoc mixed ability groups in writing and language arts that often compete for time with ongoing similar-ability groups in reading.

A few teachers <u>are</u> challenging the assumption that ability groups lead to appropriate content and pace. They recognize the advantages of diverse peer interaction and aim to promote cooperative learning without sacrificing appropriate content and pace. These teachers are abandoning ongoing similar-ability reading groups in favor of groups that change with each novel, activity, or skill. Most report occasional use of ad hoc similar-ability groups, bringing together students who have demonstrated a need for instruction in a particular skill or concept. Their preference, however, is for grouping by a variety of criteria.

These few teachers are the experimenters, and they are not without doubts. One teacher gives the pre- and post-tests from the basal series just to be sure her novel-based reading curriculum helps students develop specific skills included in the tests. A second teacher wonders if each child's skill needs are being met, and a third teacher expressed concern that the variety of groupings are difficult to coordinate and may lack consistency.

Teacher experimenters in the present study are in the minority as they venture into unfamiliar territory. Led by their own questions and concerns, they seem unaware that their actions are consistent with recommendations of the Commission on Reading (1985) which urges teachers to change groups periodically, group students by interest sometimes, identify appropriate uses of whole-class instruction, and explore effective uses of peer tutoring. In short, the commission recommends varying instructional practices to solve problems identified through extensive research.

A fourth conclusion of this study is that teachers in Coalition elementary schools are remote from research linking grouping with student learning. In present data, not a single teacher specifically mentions "research" as a reason for existing grouping practices. Furthermore, there is reason to conclude that if teachers were committed to learning about alternative instructional methods, classroom organization might change.

Even though research is not mentioned directly, some teachers experiment with research-based innovations to increase student learning. They are guided and supported by such influences as books, courses, and/or study grants. For example, over a third of the

teachers interviewed volunteered information about outside influences on their teaching. In most cases (69% of teachers mentioning outside influences), formation of mixed-ability groups went hand in hand with innovative teaching and learning. Teachers seeking to improve students' problem solving in mathematics form cooperative learning teams. Teachers exploring the "writing process" form mixed-ability editing groups. Teachers integrating reading with "whole language" development keep heterogeneous classes as one group for lessons and discussions. This suggests that outside forces can be influencial when they mesh with questions, problems, and priorities teachers experience in their daily teaching.

Outside forces to require change, however, would be ineffectual in realizing educational improvement. With the best of intentions, teachers already juggle complex forces - including assumptions, norms, mandates, expectations, and limitations - to plan and orchestrate educational programs for diverse groups of students. Adding current research and required practices to the list would likely be counterproductive.

Fifth, teachers' decisions to create ability groups are influences by many things that are often beyond teacher control. In the present study, the complexity of classroom grouping is reflected in required curricula, administrative mandates, available materials, class characteristics, and existing school norms. Influences on classroom grouping ultimately converge when teachers must make instructional decisions fit the limits of available time.

Issues of time concern researchers (Sorensen & Hallinan, 1986) and teachers alike. Present data indicate that teachers are fully

aware that grouping decisions affect the use of instructional time. They lament that there is insufficient time to accomplish what is expected of them.

Basal reading programs are powerful influences on how teachers use time allocated for reading (Commission on Reading, 1985). Basal reading programs also influence school and classroom grouping. In most schools, decisions to adopt basal reading programs are made at the district level of school organization. At the school level, principals often assign students to classes to create heterogeneous mixtures of basal reading levels. At the classroom level, teachers are expected to advance students through the basal program's scope and sequence. Furthermore, present data suggest that many children spend years moving through sequenced basal materials in groups, beginning each year where they "left off" the previous year.

Constraints of time and expectations combine to influence teacher decision making about the total educational programs of students in their classes. Teachers mention accomodating special schedules for art, music, physical education, Title 1, and special education. They describe trying to fit reading, story time, silent reading, writing, spelling, penmanship, math, science, social studies, health and safety, computers, lunch, recess, and homework announcements into a six-hour day. Teachers also express concerns for meeting the academic, social, and personal needs of their students.

A sixth and final conclusion of this study is that teachers use different grouping practices in different subjects for different reasons. Typically, ongoing ability groups dominate reading instruction; whole-class instruction and ad hoc groups are common in

math; and mixed-ability groups occur for science and social studies projects. Teachers report the social advantages of mixed-ability groups and the instructional advantages of similar-ability groups. They concede that ability grouping is not optimum socially but suggest that instructional advantages outweigh social disadvantages. To reconcile their concerns for students' social development, teachers employ mixed-ability groups where it seems appropriate to do so.

Teachers' disconnection from current research is evident in their assumption that students must be grouped by ability to achieve instructional effectiveness. In a synthesis of research on teaching, Joyce et al. (1987) report:

> Educational research now provides an array of serious options for the substance of programs that can increase student learning. Part of this information has been disseminated to school personnel, but much has not. (pp. 11-12)

For example, there is growing evidence that in mixed-ability groups associated with cooperative learning, students benefit personally, socially, and instructionally.

> Research on cooperative learning is overwhelmingly positive, and the cooperative approaches are appropriate for all curriculum areas. The more complex the outcomes (higher-order processing of information, problem solving, social skills and attitudes), the greater are the effects. (Joyce et al., 1987, p. 17)

Research documenting instructional advantages of cooperative learning, however, has emerged over time.

> Once thought of primarily as social methods directed at social goals, certain forms of cooperative learning are considerably more effective than traditional methods in increasing basic achievement outcomes, including performance on standardized tests of mathematics, reading, and language. (Slavin, 1987, p. 7)

While most teachers in the present study see social advantages to cooperative groups, only a few express the belief that cooperative

learning has instructional benefits as well. Consequently, most teachers limit cooperative, mixed-ability groups to projects in science and social studies, with occasional peer tutoring in math.

Implications

Taken together, conclusions drawn from interview data have implications for collaborative staff development, teacher preparation, organizational change, and inquiry to increase learning in elementary schools and classrooms.

Implications for school-university partnerships

The Coalition for School Improvement brings together thirty-five public elementary and secondary schools with the University of Massachusetts in Amherst for the purpose of creating environments for equal and quality education for all learners through staff development, teacher leadership preparation, and collaborative research. Data from this study inform ongoing efforts of the Coalition in various ways.

"An indisputable conclusion of research is that the quality of teaching makes a considerable difference in children's learning" (Commission on Reading, 1985, p. 85). It follows logically that educational improvement involves investing in teachers.

Data in the present study suggest that teachers hold unexamined assumptions about teaching in general and grouping in particular. Data also suggest that teachers value student heterogeneity in settings where benefits are easily recognized. As teachers gather for Coalition-sponsored study teams and seminars, discussions about research will quickly lead to "If not ability groups, then what?" Opportunities for teachers to hear about, discuss, and observe alternative grouping practices that address their concerns for content and pace should be

provided. Again, the thrust is helping teachers discover a variety of means to help all students learn and grow in a supportive school and classroom environment.

Research on staff development shows that teachers who are motivated and flexible are more likely to acquire new teaching skills and transfer new skills into existing teaching method repertoires. Furthermore, while initial enthusiasm for change is helpful, teachers need to develop knowledge and skill in applying an instructional innovation before they will fully endorse it (Showers et al., 1987).

Data in the present study hint that teachers are eager to meet the academic, personal, and social needs of their students. Some teachers already are receiving training and follow-up support in innovative instructional methods which have altered classroom groupings. Others express interest in learning more about what other teachers are discovering. Several promising innovations are documented in the present data. The Coalition for School Improvement could become a vehicle for linking elementary teachers from different schools for information sharing, support, and collaborative inquiry focused on existing and future innovations.

Implications for teacher preparation

The Coalition is based on the belief that equal and quality education for all children is the shared responsibility of the university and the partner schools. As university students prepare for careers in education, it is important that they have ample opportunities to observe in schools and classrooms and that they question observations in light of current research. Placing student teachers, for example, with experienced teachers who are questionning

existing practices and trying alternative instructional methods is one way to help prospective teachers enter the profession with a critical eye to "what is" and a confidence that conditions can indeed be changed in constructive and significant ways. If students only are exposed to three instructional groups formed by sorting students according to "low," "better," and "best" criteria, it is not surprising that the practice remains unquestioned in schools and unthinkingly perpetuated in preparation programs.

Implications for reform of grouping practices

The provision of equal and quality educational opportunities for all children is an overriding priority for school reform, and reform of grouping practices is no exception. However, grouping is an organizational practice that is inextricably linked with school and classroom curricula and instruction. It cannot be separated from goals for student learning. When grouping is viewed in relation to learning, dichotomies between similar- and mixed-ability groups are less compelling. Attention turns to determining what instructional contexts are best for what students at what times and in what settings.

In a paper presented to the Massachusetts Elementary School Principals Association, Ralph W. Tyler (1986) described school-based efforts to increase student learning. Three of Tyler's recommendations can be applied easily to proposed reform of grouping practices: analyze problems, ensure conditions for effective learning, and search for solutions.

Analyze problems. Decisions about reform should be made in order to solve problems in student learning, and teachers play a key role in identifying and analyzing learning problems. For example, concern

about student progress in reading might lead teachers to examine such factors as materials, pace, time-on-task, and grouping. In this example, the impetus behind reform is concern for student learning, not mandates or suggestions for grouping reform.

Ensure conditions for effective learning. The key to reform of grouping practices involves teachers attending to conditions for effective learning. Using Tyler's (1986) seven conditions for effective learning as a bench mark, it is clear from research that conditions associated with ability grouping may be in direct conflict with student learning. For example, motivation, challenge, and confidence are all necessary conditions for learning, yet research suggests that these essential conditions often are less available to students assigned to lower-ability groups. To rectify inequity, however, it is not enough simply to change classroom organization. Rather, attention should be given to promoting conditions for learning in an ongoing process of making the educational environment responsive to all students.

Search for solutions. Present data suggest that some teachers in Coalition schools are addressing concerns for student learning through analysis of problems and exploration of promising innovations. Again, the emphasis for these teachers is on increasing student learning; alternative grouping practices are only one of several "means" to a desired "end." The search for solutions in relation to school and classroom grouping involves ongoing inquiry into how learning can be promoted in educational environments. It requires individual and team efforts to share ideas, resources, and expertise and to examine traditions, norms, and assumptions. One important implication of the

present study for grouping reform is that teachers must become connected in meaningful ways with promising instructional practices.

Implications for further research

The present study contributes to a long-term research agenda for the Coalition. It describes teachers' perceptions about existing grouping practices, while raising questions about the actual reality of those practices. The following recommendations are provided to stimulate and channel additional research and study of the formation of instructional groups in elementary schools and classrooms.

Time spent in different groups. The present study shows that grouping at the classroom level is varied, including both similar- and mixed-ability groups in both temporary and ongoing arrangements of students. The study does not shed light on proportions of school days spent in different kinds of groups. For example, teachers report they value mixed-ability peer interaction, but the study does not reveal how much time students actually spend in mixed-ability groups. Although almost all teachers report using mixed-ability groups, observational studies would lead a fuller understanding of which grouping practices are pervasive.

How groups shape student performance. The present study documents that teachers perceive different conditions for different ability groups that are valid in meeting students' educational needs. The review of literature suggests that different conditions associated with ability groups actually lead to unequal opportunities for learning, to the possible harm of students in lower-ability groups. For example, teachers perceive that content and pace are important in helping students learn to read, but to what extent do content and pace

vary in similar-ability groups? More studies on how varying conditions associated with grouping shape student performance are needed.

Consumer's perspective on grouping. Students' and parents' perceptions of how school and classroom groupings affect children academically, personally, and socially would contribute different perspectives to understanding the results of school and classroom organization. For example, while teachers perceive that instructional advantages of ability grouping outweigh social disadvantages, students and parents may have a different view. Tapping students' perceptions of specific grouping practices would help clarify what conditions are fostered with different arrangements of students.

Assumptions about reading development. Data in the present study suggest that teachers hold unexamined assumptions about the advantages of ability grouping. One possibility for further research would be a study to unravel assumptions guiding organization and instruction in reading. The present study shows that most teachers use ability grouping in reading. However, the study only begins to suggest possible reasons why the practice is so common.

Teachers and research. Further study is needed to ascertain if teachers are disconnected from current research. While present data suggest this conclusion, additional studies could help complete the picture and perhaps identify possible avenues for increasing teachers' awareness of research and use of research findings in instructional improvement.

Following teacher experimenters. The present study identifies several "teacher experimenters" in Coalition elementary schools. Research to understand how these teachers go about changing existing

practices would contribute to understanding promising avenues for educational change. Teachers actively involved in inquiry and innovation also are potential candidates for collaborative research joining university and school personnel in investigations of whether and how innovations are helping students.

Closing

Compelling issues surrounding the effectiveness and appropriateness of instructional groups are not simply "either/or." Educators must consider when, for how long, and under what conditions groups do or do not help students achieve desirable learning goals. Teaching requires that teachers remain watchful of students' motivation, confidence, and satisfaction as well as acquisition of knowledge and skills. Grouping students solely to present linear skill paths ignores the impact of peers, self-identity, and changing student needs and personal characteristics. Perhaps the most compelling research questions center on discovering which conditions will help students realize their academic and personal promise.

Achieving equal and quality education involves careful analysis of existing practices to determine if grouping promotes instructional or social conditions that disadvantage some students. Such analysis requires scrutiny of norms and assumptions in light of current research. However, achieving equity is not simply a matter of selecting a grouping method. The crucial challenge facing educators is to discover which instructional and social conditions are best for students and then to organize students in flexible ways to promote maximum learning for all.

APPENDIX A

INTERVIEW GUIDES

Principal Interview

Name _____

School _____

Classrooms _____

Students _____

Date _____

K	K-1	1	1-2	2	2-3	3	3-4	4	4-5	5	5-6	6

1. How is the school organized into classes?
(self-contained, teams, departments, combined or single grades)

2. How are students placed into classes? (by ability, diversity, random)
What criteria are used? (IQ, tests, sex, age, teacher rec, parents)

Teacher Interview

Name _____ School _____

Grade Level(s) _____ Date _____

Please describe how you group the students in your class for instruction in different academic subjects. For each grouping practice, describe what you think are the effects of grouping on student learning.

Why do you group students the way you do?

Reading _____
Writing _____
Spelling _____
Math _____
Science _____
Social Studies _____

APPENDIX B

CHRONOLOGY AND CHARACTERISTICS OF TEACHER INTERVIEWS

Appendix B: Chronology and characteristics of teacher interviews

Teacher #	Interview Date	Interview Site	School	Grade	Classroom
1	1/21/88	school	K	2	self-contained
2	1/21/88	school	K	3	self-contained*
3	1/21/88	school	J	5-6	3-teacher team
4	1/21/88	school	J	3-4	3-teacher team
5	1/22/88	school	I	3	2-teacher team
6	1/22/88	school	I	3	2-teacher team
7	1/22/88	school	I	READING	reading teacher
8	1/22/88	school	F	2	self contained
9	1/22/88	school	F	1	self contained
10	1/22/88	school	F	4	self contained
11	1/25/88	school	E	3	self contained*
12	1/25/88	school	E	4	self contained
13	1/25/88	school	A	4	self contained
14	1/25/88	school	A	1	self contained
15	1/26/88	telephone	D	6	departments
16	1/26/88	school	L	3-4	2-teacher team
17	1/26/88	telephone	L	1	self contained
18	1/28/88	school	B	5	departments
19	1/28/88	school	B	6	departments
20	1/28/88	school	B	4	self contained
21	1/29/88	school	C	1	4-teacher team
22	1/29/88	school	C	4	4-teacher team
23	2/03/88	telephone	D	3	self-contained
24	2/03/88	telephone	D	1	self-contained*
25	2/10/88	school	H	2	bilingual team
26	2/10/88	school	H	2	self contained
27	2/10/88	school	H	2	bilingual team
28	2/25/88	university	G	2	self contained
29	2/26/88	university	G	1	self contained
30	2/26/88	university	G	4	self contained
31	4/13/88	school	A	K	self contained
32	4/14/88	school	D	2	self contained
33	4/14/88	school	D	K	self contained
34	4/15/88	school	C	K	self contained
35	4/15/88	school	C	3	4-teacher team

* Note: In three self-contained classrooms, students are regrouped for reading only.

APPENDIX C

SCHOOL CHARACTERISTICS AND PLACEMENT CRITERIA

Appendix C: School characteristics

School Code	A	B	C	D	E	F	G	H	I	J	K	L
# Students	207	279	480	475	155	176	760	281	615	250	190	140
Grades	P-6	K-8	K-4	K-6	K-6	K-4	P-5	K-3	K-5	P-6	K-4	P-6
Classrooms	11	10	20	20	8	9	33	14	27	11	10	8
Organization:												
Self-contained single grade	11	8	4	12	8	9	32	7	5	3	10	6
Self-contained combined	0	0	0	0	0	0	1	0	0	0	0	0
Teams single grade	0	0	15	3	0	0	0	7*	22	0	0	0
Teams combined	0	0	0	0	0	0	0	0	0	8	0	2
Departments	0	2	0	5	0	0	0	0	0	0	0	0

* Note: Seven single-grade classes in School H are bilingual, team taught by a Spanish teacher and an ESL teacher.

Appendix C, continued: Placement Criteria

	Placement Criteria											
School	1	2	3	4	5	6	7	8	9	10	11	12
A	x	x	x				x		x	x		
B									x			
C	x		x	x	x	x						
D	x	x	x		x	x	x				x	
E								x				
F	x		x		x	x	x	x				
G		x	x		x	x	x	x			x	
H		x	x	x			x					x
I		x	x		x	x						
J			x		x	x	x	x				
K	x	x				x	x			x	x	
L							x					

Key:

1- Teachers' assessment of ability
2- Reading level
3- Gender
4- Race or ethnic origin
5- Social skills or characteristics
6- Receipt of special education services
7- Parent requests and input
8- Assessment of developmental readiness
9- Bus routes
10- Teaching style compatable with learning style
11- Standardized test scores
12- English language proficiency

APPENDIX D

DATA SUMMARY FOR CLASSROOM MATH GROUPS

Appendix D: Data summary for classroom math groups (n=32)

Teacher	Math class organization		Whole-class	Similar-ability		Mixed-ability (ad hoc)		
	self contained	regrouped	lessons	ongoing	ad hoc	teacher	tutor	coop.
1	x		x		x			x
2	x		x					
3		x		x				
4		x		x				
5		x	x		x		x	
6		x	x		x		x	
8	x		x	x				x
9	x		x					x
10	x				x			
11	x		x		x			
12	x		x		x			
13	x		x		x		x	
14	x		x		x	x		
16		x	x		x			
17	x		x		x		x	
18	x		x		x		x	x
20	x		x				x	x
21	x		x		x		x	
22		x	x					
23		x	x					
24	x		x		x			x
25	x				x	x		
26	x		x			x		
27	x		x				x	
28	x		x		x		x	
29	x		x				x	x
30	x			x				
31	x		x		x			x
32	x		x		x		x	
33	x			x				
34	x		x				x	
35		x	x					
Totals	24	8	26	5	17	3	12	8

APPENDIX E

DATA SUMMARY FOR CLASSROOM READING GROUPS

Appendix E: Data summary for classroom reading groups (n=34)

Teacher	Type of community	Class organization		Materials		
		self contained	regrouped	basals	novels	compositions
1	rural	x		x		
2	rural		x	x		
3	rural		x		x	
4	rural		x	x	x	
5	urban		x	x		
6	urban		x	x		
8	rural	x		x		
9	rural	x		x		x
10	rural		x	x		
11	rural	x		x	x	
12	rural	x		x	x	
13	rural	x		x	x	
14	rural	x			x	
15	suburban	x		x		
16	rural		x	x	x	
17	rural	x			x	x
18	suburban	x		x		
19	suburban	x		x		
20	suburban	x		x		
21	urban		x	x		
22	urban		x	x		
23	suburban	x		x		
24	suburban		x	x		
25	urban	x		x		
26	urban	x		x		
27	urban	x		x		
28	suburban	x		x		
29	suburban	x		x		
30	suburban	x		x		
31	rural	x			x	
32	suburban	x		x		
33	suburban	x		x		
34	urban	x		x		
35	urban		x	x		

Appendix E, continued: Data summary for classroom reading groups (n=34)

Teacher	Similar-ability		Mixed-ability			
	ongoing	ad hoc	ongoing	ad hoc		
				teacher	tutor	coop
1	3					
2	1					
3	1					
4	4					
5	2					
6	2					
8	3					
9	7	x				
10	4	x				
11		x		x	x	
12	4					
13	3					
14			5			
15	4					
16		x		x	x	x
17		x		x	x	x
18		x				
19						
20		x				
21	1					
22	2				x	
23	3	x				x
24	3					
25	x					
26	4				x	
27	x			x		
28	2				x	
29	3	x				
30	2					
31						
32	x					
33	5					
34		x			x	
35	2					

APPENDIX F

DATA SUMMARY FOR CLASSROOM SCIENCE AND SOCIAL STUDIES GROUPS

Appendix F: Data summary for classroom science and social studies groups (n=31)

Teach.	Science			Social Studies		
	Whole-class Lessons	Similar-ability (ad hoc)	Mixed-ability (ad hoc)	Whole-class Lesson	Similar-ability (ad hoc)	Mixed-ability (ad hoc)
1	x			x		
2	x			x		
3	x		x	x		x
4	x		x	x		x
5	x		x	x		x
6	x		x	x		x
8			x			x
9	x			x		
10	x		x	x		x
11	x		x	x		x
12	x		x	x		x
13	x		x	x		x
14	x		x	x		x
16	x		x	x	x- reading	x
17						
20	x		x	x		x
21	x		x	x		x
22	x			x		
23						
24	x			x		
25	x			x		
26						x
27	x			x		
28	x		x	x		x
29	x			x		
30	x			x		
31	x			x		
32				x		x
33	x		x	x		x
34	x			x		
35	x			x		

APPENDIX G

DATA SUMMARY FOR CLASSROOM ENGLISH/WRITING GROUPS

Appendix G: Data Summary for Classroom English/Writing Groups (n=33)

Teacher	Process Writing?	Whole-class Lessons	Similar-ability (ad hoc)	Mixed-ability			
				ongoing	ad hoc		
					teacher	tutor	coop
1		x					
2		x					
3	x	x					
4		x			x		x
5	x	x					
6	x	x				x	
8	x	x				x	
9	x	x					
10	x	x	x		x		x
11	x	x			x		
12	x	x					x
13		x					x
14	x	x					x
15		x	x			x	x
16	x	x	x				x
17	x	x	x				x
19	x	x				x	
20	x	x				x	x
21		x					
22				x		x	
23							
24							
25							
26							
27							
28	x					x	x
29	x						
30	x		x			x	
31							
32							
33							
34							
35	x						x

APPENDIX H

TEACHERS' PERCEPTIONS OF CONDITIONS AFFECTED BY GROUPING

Appendix H: Teachers' perceptions of conditions affected by grouping (n=35)

	Advantages of Similar-Ability Grouping		
Teacher	Instructional	Personal	Social
1			
2	content	less frustration	
3			
4	content	less frustration	
5	content pace		
6	content pace		
7		challenge	
8	content pace	less frustration	
9	pace	self-image	
10	content pace		
11			
12			
13	content pace		
14	content	challenge	
15	pace		
16			
17	content	challenge	
18			
19	pace		
20			
21	content pace	creative expression	
22	pace		
23	pace		
24	content	challenge creative expression	
25			
26	pace	less frustration self-image	
27			
28			
29	content pace		
30	content pace	less frustration challenge	
31			
32	content pace		
33	content pace	less frustration self-image	
34			
35	content pace		

Appendix H, continued: Teachers' perceptions of conditions affected by grouping (n=35)

	Advantages of Mixed-Ability Grouping		
Teacher	Instructional	Personal	Social
1			
2			teamwork
3		self-image creativity	teamwork
4	tutoring	leadership	awareness
5	tutoring		model mutual aid teamwork
6	tutoring		model mutual aid teamwork
7			
8	tutoring		model mutual aid
9			model
10			
11	tutoring	self-image challenge self-expectation motivation	mutual aid
12			model
13	tutoring		model
14			model
15	tutoring		
16	tutoring content		cooperation sharing mutual aid awareness
17		self-image leadership	relationships awareness sharing mutual aid
18	tutoring		
19	tutoring		
20	tutoring	motivation	teamwork
21	tutoring		model sharing cooperation awareness
22	tutoring	self-image leadership	model relationships awareness
23			
24			mutual aid
25	content pace	self-image self-expectation	model
26	tutoring		model
27	tutoring		
28	tutoring content pace	motivation creativity challenge	model awareness sharing mutual aid teamwork
29	tutoring	self-image motivation	model awareness relationships
30	tutoring		relationships mutual aid awareness
31	pace	self-image	relationships
32	tutoring pace	self-image	model awareness mutual aid
33		creativity	model relationships
34	tutoring pace	self-image motivation	model
35			

APPENDIX I

REPORTED INFLUENCES ON CLASSROOM GROUPING

Appendix I: Reported influences on classroom grouping

Teacher	Teaching Ease	Mandates	Philosophy	Norms	Students	Time	Outside	Materials
1	x							
2	x						x	
3					x			
4	x					x	x	
5		x		x		x		
6		x		x		x		x
7	x	x		x		x		x
8			x					
9								
10	x				x	x	x	
11	x				x	x	x	
12			x			x	x	x
13	x							
14				x				x
15				x		x	x	x
16	x							x
17					x			
18	x	x						
19		x			x			
20		x		x	x		x	
21	x			x	x		x	
22	x			x				
23				x				
24				x	x			
25		x	x	x	x		x	
26		x					x	
27		x			x			
28			x	x		x		
29	x	x		x		x	x	
30	x	x			x		x	
31			x		x	x		
32	x	x		x		x		
33			x		x			
34					x	x	x	
35			x	x	x	x		

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